




22102455561

Adams



Digitized by the Internet Archive
in 2020 with funding from
Wellcome Library

HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES.
JANUARY—JUNE
1854.

PRINTED BY J. E. ADLARD, BARTHOLOMEW CLOSE

THE
HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

BEING
A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL
BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED
IN THE PRECEDING SIX MONTHS:

TOGETHER WITH A
SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND
THE COLLATERAL SCIENCES DURING THE SAME PERIOD.

EDITED BY
W. H. RANKING, M.D. CANTAB.,
PHYSICIAN TO THE NORFOLK AND NORWICH HOSPITAL,

AND
C. B. RADCLIFFE, M.D. LOND., L.R.C.P.,
ASSISTANT PHYSICIAN TO, AND LECTURER ON MATERIA MEDICA AT, THE WESTMINSTER HOSPITAL.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

VOL. XIX.

JANUARY—JUNE, 1854.

LONDON:
JOHN CHURCHILL, NEW BURLINGTON STREET.

EDINBURGH: MACLACHLAN & CO.

DUBLIN: FANNIN & CO.

MDCCCLIV.

VOL. XX will appear on the 1st of January, 1854.

Books, &c., for notice, to be sent as soon as published (carriage free) to Mr. CHURCHILL, New Burlington Street; or to Dr. RADCLIFFE, 4, Henrietta Street, Cavendish Square.

ERRATA.

Instead of "tumour. It is expected," in p. 127 of our last volume, read "tumour; it is essential."

Instead of "on the *internal* application of belladonna," in p. 47 of the present volume, read "on the *external* application" &c.

| | |
|-------------------------------|----------|
| WELLCOME INSTITUTE LIBRARY | |
| Coll. | welMOMec |
| Call | 5er |
| No. | W1 |
| | 1089 |
| | |
| | |

LIST OF BRITISH AND FOREIGN PERIODICALS REFERRED TO IN THE 'HALF-YEARLY ABSTRACT.'

BRITISH.

Annals of Anatomy and Physiology.
Association Medical Journal.
British and Foreign Medico-Chirurgical
Review.
Dublin Quarterly Journal of the Medical
Sciences.
Dublin Medical Press.
Dublin Hospital Gazette.
Edinburgh Medical and Surgical Journal.
Edinburgh New Philosophical Journal.
Edinburgh Monthly Journal.
Glasgow Medical Journal.
Indian Annals of Medical Science.
Journal of Psychological Medicine.
Lancet.
London Medical Examiner.
Medical Circular.
Medical Times and Gazette.
Microscopical Journal.
Pharmaceutical Journal.
Statistical Journal.

AMERICAN.

American Journal of the Medical Sciences.
Canada Medical Journal.
New York Journal of Medicine.
North-Western Medical Journal.
Philadelphia Medical Examiner.
Montreal Monthly Journal.

FRENCH.

Annales de Chimie et de Physique.
 „ *d'Hygiène Publique.*
 „ *Medico-Psychologique.*
 „ *d'Oculistique.*
 „ *des Sciences Naturelles.*
Archives Générales de Médecine.
Bulletin de l'Académie de Médecine.
Comptes Rendus.
Gazette des Hôpitaux.
Gazette Hebdomadaire de Médecine et de
Chirurgie.
Gazette Médicale de Paris.
Journal de Pharmacie et de Chimie.
L'Union Médicale.
Révue Médico-Chirurgicale de Paris.

GERMAN.

Annalen der Chemie und Pharmacie.
Archiv für Physiolog. und Patholog. Chemie
und Mikroskopie.
Canstatt's Jahresbericht.
Deutsche Klinik.
Monatsbericht der Akademie zu Berlin.
Müller's Archiv für Anatomie, &c.
Schmidt's Jahrbücher.
Vierteljahrsschrift für die Praktische Heil-
kunde.
Zeitschrift für Rationelle Medicin.

ITALIAN.

Annali Universali di Medicina.

N.B. Every periodical here specified is consulted *directly* by the Editors and their Coadjutors.

NOTICE TO CORRESPONDENTS.

The Editors request that all communications be forwarded (free) to Mr. CHURCHILL, New Burlington Street, London.

The Editors are compelled to remind their American correspondents, that no parcels are taken in, unless the entire charge be paid upon them.

CONTENTS OF VOL. XIX.

PART I.—MEDICINE.

I.—*General Questions in Medicine.*

(a) *Hygiene.*

| ART. | | PAGE |
|------|--|------|
| 1. | The Prophylactic Influence of Quinine. By <i>Dr. Bryson, R.N.</i> | 1 |
| 2. | Vaccination, as a Safe and Efficient Prophylactic. By <i>Dr. Seaton</i> | 5 |
| 3. | The Comparative Exemption of Publicans from Phthisis. By <i>Dr. Atkinson</i> | 6 |

(b) *Acute Diseases.*

| | | |
|-----|---|-----|
| 4. | The Treatment of Fever by Stimulants. By <i>Dr. Brinton</i> | 7 |
| 5. | The Treatment of Fever by large doses of Quinine. By <i>Dr. Corbyn</i> | 11 |
| 6. | The Internal Administration of Chloroform in Fever. By <i>Dr. Gordon</i> | 13 |
| 7. | The Time of Accession of Intermittent Fever. By <i>Mr. Waring</i> | 15 |
| 8. | The Influence of Vaccination during the Incubation of Smallpox. By <i>Dr. Barthez</i> | 16 |
| 9. | Tincture of Iodine as an Ectrotic Remedy in Smallpox. By <i>Dr. Crawford</i> | ib. |
| 10. | The Ectrotic Treatment of Smallpox. By <i>Professor Bennett</i> | 19 |
| 11. | Case in which Scarlatina seems to have been Inoculated. By <i>Dr. Rowland</i> | 20 |
| 12. | Case of Glanders in Man successfully treated by Stimulants. By <i>Mr. Cox</i> | 21 |
| 13. | The Indian Plague. By <i>Dr. McWilliams</i> | 22 |
| 14. | The Comparative Mortality of Pestilence and War. By <i>Dr. Robertson</i> | 23 |

(c) *Chronic Diseases.*

| | | |
|-----|---|----|
| 15. | Certain Pathological States of the Blood, and their Treatment. By <i>Dr. Copland, F.R.S.</i> | 24 |
| 16. | Cases of Leucocythæmia. By <i>Dr. Quain</i> | 25 |
| 17. | The Blood and Effused Fluids in Gout, Rheumatism, &c. By <i>Dr. Garrod</i> | 27 |
| 18. | The Excretions as Guides to the Treatment of Rheumatism, &c. By <i>Dr. Fuller</i> | 28 |
| 19. | The Indication for Iodide of Potassium in the Treatment of Chronic Rheumatism. By <i>Dr. Basham</i> | 31 |
| 20. | The Local Application of Spirits of Wine in Acute Gout. By <i>Dr. Goolden</i> | 33 |
| 21. | The Co-existence of Cancer and Miliary Tubercle. By <i>Dr. Bristowe</i> | 34 |

II.—*Special Questions in Medicine.*

(a) *Concerning the Nervous System.*

| | | |
|-----|--|----|
| 22. | The Influence of Opium in Counteracting some Injurious Consequences of Exhaustion and Anxiety. By <i>Dr. Johnson</i> | 36 |
|-----|--|----|

| ART. | PAGE |
|---|------|
| 23. The Nature and proximate Cause of Insanity. By <i>Dr. Davy</i> | 40 |
| 24. Prolonged Hot Baths in the Treatment of Insanity. By <i>Dr. Winslow, D.C.L.</i> | ib. |
| 25. The question of Bleeding in the Treatment of Insanity. By <i>Dr. Winslow, D.C.L.</i> | 43 |
| 26. The Internal Use of Chloroform in Hypochondriasis. By <i>Dr. Osborne</i> | 45 |
| 27. The External Application of Belladonna in Delirium Tremens. By <i>Dr. Grieve</i> | 47 |
| 28. Vertigo. By <i>Dr. Reynolds</i> | 48 |
| 29. Case of Hydrophobia said to be Cured by Chloroform. By <i>Dr. Stewart</i> | 49 |
| 30. Remarkable Development of Intelligence in a Cretin during Hydrophobia. By <i>M. Niepce</i> | 50 |
| 31. Report on Cases of Hydrophobia in France during 1852. By <i>M. Tardieu</i> | 50 |
| 32. Curious Case of Recurrent Tetanoid Spasms. By <i>M. Barbieri</i> | 52 |
| 33. Anomalous Case of Tetanus. By <i>Dr. Little</i> | ib. |
| 34. Report of Cases of Tetanus in the Jamsetjee Jejeebhoy Hospital from 1845 to 1851. By <i>Mr. Peet</i> | 54 |
| 35. The Employment of Chloroform in the Treatment of Tetanus. By <i>Dr. Jackson and Dr. Laurie</i> | 55 |
| 36. Case of Catalepsy. By <i>Dr. Coldstream</i> | 57 |
| (b) Concerning the Respiratory System. | |
| 37. Paracentesis in Pleuritic Effusion. By <i>Dr. Bowditch and Dr. Tracy</i> | 60 |
| 38. Case of alternate Apnoea and Accelerated Breathing. By <i>Dr. Sibson</i> | 67 |
| 39. Gangrene of the Lungs Successfully Treated by Inhalations of Turpentine | 68 |
| (c) Concerning the Circulatory System | |
| 40. The Diagnosis of Functional Affections of the Heart By <i>Dr. Corson</i> | 70 |
| 41. Case of Angina Pectoris resulting from the Use of Tobacco. By <i>Dr. Corson</i> | ib. |
| 42. The Diagnosis between Pericardial and Endocardial Sounds. By <i>Dr. Bellingham</i> | 71 |
| 43. Notes on Diseases of the Heart and Aorta. By <i>Dr. Morehead</i> | 72 |
| 44. Case of Aneurism of the Aorta Communicating Spontaneously with the Superior Cava. By <i>Dr. Mayne</i> | 73 |
| 45. Occlusion of Arteries by Detached Cardiac Vegetations. By <i>Professor Simpson and Mr. Shaw</i> | 77 |
| (d) Concerning the Alimentary Canal. | |
| 46. The Use of Ipecacuanha in certain Stomach Disorders. By <i>Dr. Budd</i> | 78 |
| 47. Pyrosis. By <i>Dr. Budd</i> | 79 |
| 48. Case of Chronic Functional Vomiting Cured by Ether Capsules. By <i>Dr. Galante</i> | 81 |
| 49. Cases of Sarcina Ventriculi. By <i>Dr. Budd and Dr. Barnes</i> | ib. |
| 50. Case of Enormously Dilated Stomach. By <i>Dr. Miller</i> | 86 |
| 51. Chloroform in Spasmodic Obstruction of the Bowels. By <i>Dr. Cain</i> | 88 |
| 52. Opium instead of Purgatives in Severe Cases of Intestinal Obstruction. By <i>Dr. Evans</i> | ib. |
| 53. Strychnia in Lead Poisoning. By <i>Dr. Sevet</i> | 89 |
| 54. Diarrhœa Adiposa. By <i>Mr. Marston and Mr. Reeves</i> | 90 |
| 55. Iodine Injections in Ascites. By <i>Dr. Costes</i> | 94 |
| 56. Local Application of Chloroform Vapour in Tenesmus. By <i>M. Ehrenreich</i> | ib. |
| 57. On Abscess of the Liver. By <i>Mr. Stovell</i> | 95 |
| (e) Concerning the Genito-Urinary System. | |
| 58. The Characters of Urine Depositing Oxalate of Lime. By <i>Dr. MacLagan</i> | ib. |
| 59. The Diagnostic Value of the absence of Chlorides in the Urine. By <i>Professor Bennett</i> | 96 |
| 60. Alkalies in the Treatment of Acidity of the Urine. By <i>Dr. Bence Jones, F.R.S.</i> | 98 |
| 61. The Action of Various Remedies in Diabetes. By <i>Dr. Basham</i> | 100 |
| 62. Case of Diabetes Treated by Rennet. By <i>Dr. Fearnside</i> | 102 |

(f) *Concerning the Cutaneous System.*

| ART. | | PAGE |
|------|--|------|
| 63. | The Keloid of Alibert and True Keloid. By <i>Dr. Addison</i> and <i>Dr. Alderson</i> | 102 |
| 64. | Insect Larvæ under the Human Skin. By <i>Dr. Londres</i> | 106 |
| 65. | The cure of the Itch. By <i>Lieut.-Col. Jebb</i> | ib. |

PART II.—SURGERY.

I.—*General Questions in Surgery.*(a) *Concerning Tumours.*

| | | |
|-----|--|-----|
| 66. | The relation between Gôitre and Tuberculosis. By <i>Dr. Hamburger</i> | 107 |
| 67. | The Results of Surgical Operations in Malignant Diseases By <i>Dr. Gross</i> | ib. |
| 68. | The Treatment of Cancer by Congelation. By <i>Dr. James Arnott</i> | 109 |

(b) *Concerning Wounds and Ulcers.*

| | | |
|-----|---|-----|
| 69. | Stimulants in Snake-bites. By <i>Dr. Lowndes</i> and <i>Dr. Blackburn</i> | 113 |
| 70. | The Use of Collodian in Burns. By <i>Dr. Blumhardt</i> | 114 |
| 71. | The Treatment of Callous Ulcer by excision of the Margin. By <i>Mr. Huinworth</i> | 115 |

(d) *Concerning Diseases of the Blood-Vessels.*

| | | |
|-----|---|-----|
| 72. | Treatment of Aneurism by Compression. By <i>Various Surgeons</i> | 116 |
| 73. | Treatment of Aneurism by Injection of Perchloride of Iron. By <i>MM. Velpeau, Malgaigne, and others</i> | 117 |
| 74. | Treatment of Varicose Veins by Injection of Perchloride of Iron. By <i>MM. Folin and Degranges</i> | 119 |
| 75. | Treatment of Nævus by Injection of Perchloride of Iron. By <i>Mr. Cooper Forster</i> | 120 |
| 76. | The Mode of Preparing the Solution of Perchloride of Iron. By <i>Dr. Parkes</i> | ib. |
| 77. | Case of Aneurism Treated by Injection of Acetate of the Peroxide of Iron. By <i>M. Lusanna</i> | 121 |

(d) *Concerning Fractures and Dislocations.*

| | | |
|-----|---|-----|
| 78. | A New Operation for Ununited Fracture. By <i>Mr. Jordan</i> | 122 |
| 79. | The Treatment of Dislocation associated with Fracture. By <i>Mr. Hargraves</i> and <i>M. Richet</i> | ib. |
| 80. | A New Mode of Procuring Extension in Fracture. By <i>Dr. Crosby</i> | 124 |
| 81. | Felt Splints. By <i>Dr. Hamilton</i> | ib. |

(e) *Concerning Diseases of the Bones and Joints.*

| | | |
|-----|---|-----|
| 82. | Caries and Necrosis in reference to the Treatment of Diseased Joints. By <i>Mr. Gay</i> | 125 |
| 83. | Case of Mollities Ossium. By <i>Dr. Chambers</i> | 126 |
| 84. | The Union of Long-divided Tendons. By <i>MM. Sedillot, Roux, and Guerin</i> | 127 |

(f) *Concerning Operations.*

| | | |
|-----|---|-----|
| 85. | A New Vaccine Scarificator. By <i>Dr. Dwyer</i> | 129 |
|-----|---|-----|

(g) *Concerning Anæsthetics.*

| | | |
|-----|---|-----|
| 86. | Rules for the Administration of Chloroform. By <i>M. Robert</i> | ib. |
|-----|---|-----|

II.—*Special Questions in Surgery.*

| ART. | | PAGE |
|------|---|------|
| 87. | The Questionable Propriety of Trephining for Intra-cranial Suppuration. By <i>Mr. Prescott Hewitt</i> | 130 |
| 88. | Xerophthmia. By <i>Mr. Taylor</i> | 132 |
| 89. | Tarsal Tumour. By <i>Mr. Walton</i> | 136 |
| 90. | Case of Removal of a piece of Steel from the interior of the Eye. By <i>Mr. Critchett</i> | 137 |
| 91. | Removal of the Upper Maxilla, and part of the Æthmoid Bone. By <i>Dr. Webb</i> | 138 |
| 92. | A New Instrument for the Removal of Aural Polypi. By <i>Mr. Toynbee</i> | 141 |
| 93. | A New Mode of Plugging in Epistaxis. By <i>M. Leydet</i> | 142 |
| 94. | Case of Restoration of the Entire Upper Lip. By <i>Dr. Carnochan</i> | ib. |
| 95. | Amputation of the Tongue. By <i>M. Maisonneuve</i> | 146 |
| 96. | The Operation for Split Palate. By <i>Professor Syme</i> | 147 |
| 97. | Case of Fracture of the third Cervical Vertebra, with Displacement, in which life was prolonged for seven days. By <i>Dr. Davis</i> | 150 |
| 98. | Exercise of the Voice in Ulceration of the Larynx. By <i>M. Trousseau</i> | 151 |
| 99. | Extraordinary Operation on the Subclavian Vein | 152 |

(b) *Concerning the Chest, Abdomen and Pelvis.*

| | | |
|------|--|-----|
| 100. | Case of Complete Dislocation of a Dorsal Vertebra, without Fracture. By <i>M. Robert</i> | 153 |
| 101. | Lateral Curvature of the Spine. By <i>Mr. William Adams</i> | 154 |
| 102. | Case of Recovery after Laceration of the Liver. By <i>Mr. Hammond</i> | 157 |
| 103. | Case of Strangulation of the Jejunum released by Gasterotomy. By <i>Dr. Ridge</i> | 161 |
| 104. | An Improved Plan of Treating Hæmorrhoids. By <i>Mr. Lee</i> | 166 |
| 105. | Cause and Treatment of Prolapsus of the Rectum. By <i>M. Duchaussey</i> | 167 |
| 106. | Treatment of Anal Fistulæ by Iodine Injections. By <i>M. Boinet</i> | 168 |
| 106* | Treatment of Anal Fistulæ by Injections of Tincture of Rhatany. By <i>M. Rottée</i> | 169 |
| 107. | Case of Hernia of the Bladder into the Scrotum. By <i>Mr. Pilcher</i> | ib. |
| 108. | Clinical Remarks upon Hydrocele. By <i>M. Velpeau</i> | 171 |
| 109. | The Radical Cure of Hydrocele by Lunar Caustic. By <i>Dr. Parker</i> | 172 |
| 110. | Case in which a Gutta-percha Bougie was broken off in the Urethra. By <i>Dr. Warren</i> | 173 |
| 111. | Cases in which Urethrotomy may be employed. By <i>Mr. Erichsen</i> | ib. |
| 112. | Case of Spontaneous Recovery after very Severe Injury to the Bladder. By <i>Dr. Dunsmore</i> | ib. |

(c) *Concerning the Upper Extremity.*

| | | |
|------|---|-----|
| 113. | Case of Dislocation of the Humerus upon the Dorsum of the Scapula. By <i>Mr. West</i> | 175 |
|------|---|-----|

(d) *Concerning the Inferior Extremity.*

| | | |
|------|---|-----|
| 114. | Sciatica, and its Treatment by Croton Oil. By <i>Mr. Hancock</i> | 176 |
| 115. | Excision of the Knee-joint. By <i>Mr. Jones, Dr. Keith, and Mr. Erichsen</i> | 179 |
| 116. | Case of loose Cartilage in the Knee-joint successfully treated by Mr. Syme's Operation. By <i>Dr. Mackenzie</i> | 182 |
| 117. | The use of Adhesive Plaster in the Treatment of Fractures of the Patella. By <i>Dr. Neill</i> | 183 |
| 118. | Case of Excision of the Ankle-joint. By <i>Dr. Buchanan</i> | 184 |
| 119. | Case of Dislocation of the Metatarsal Bones under the Tarsal. By <i>Mr. Tuffnell</i> | 185 |

PART III.

MIDWIFERY, AND DISEASES OF WOMEN AND CHILDREN.

(a) *Concerning Pregnancy and Parturition.*

| ART. | PAGE |
|---|------|
| 120. Case in which the Birth of Twins was separated by an interval of fifteen days. By <i>M. Dmochowski</i> | 187 |
| 121. Case in which a Fœtus escaped into the Abdominal Cavity, through a rupture of the Uterus and remained there for fifty-four years. By <i>M. Nebel</i> | 187 |
| 122. Case of Extra-uterine Pregnancy. By <i>Dr. West</i> | 188 |
| 123. Case of Pregnancy in a Rudimentary Uterine Horn. By <i>M. Scanzoni</i> | 190 |
| 124. Cases of Cæsarian Section. By <i>MM. Faye, Mazier, Haider, and Nebel</i> | 191 |
| 125. Case of Inversio Uteri occurring during Labour. By <i>Dr. Johnson</i> | 193 |
| 126. The Inner Surface of the Uterus after Delivery. By <i>Dr. M. Duncan</i> | 194 |
| 127. Case of Rupture of a Pulmonary Artery during Labour. By <i>Dr. Cooke</i> | ib. |
| 128. Effects of Menstruation on the Milk of Nurses. By <i>MM. Becquerel and Ver- nois</i> | 195 |
| 129. On Puerperal Arteritis and Arterial Obstruction. By <i>Professor Simpson</i> | 196 |
| 130. The questionable utility of Chloroform in Midwifery. By <i>Dr. Lee</i> | 201 |

(b) *Concerning the Diseases of Women.*

| | |
|---|-----|
| 131. Case of Phlegmasia Dolens in a Virgin. By <i>Dr. M'Clintock</i> | 205 |
| 132. Case of Retention of the Menses simulating Pregnancy. By <i>Dr. Peltier</i> | 205 |
| 133. Ergot of Rye in Leucorrhœa. By <i>M. Lacowski</i> | 206 |
| 134. On Internal Metritis and Uterine Catarrh. By <i>Dr. Tilt</i> | 207 |
| 135. The Diagnosis and Treatment of Prolapsus Uteri. By <i>Dr. Beck</i> | 208 |
| 136. The Diminution and Disappearance of Uterine Tumours. By <i>Dr. Ashwell</i> | 210 |
| 137. A new Instrument for Uterine Hæmorrhage. By <i>Mr. Howell</i> | 212 |
| 138. Cases of Partial Chorea occurring during Pregnancy. By <i>Dr. Duncan</i> | 213 |
| 139. Disease of the Rectum, resulting from certain conditions of the Uterus. By <i>Mr. J. B. Brown</i> | 215 |
| 140. A new Pessary. By <i>Dr. Churchill</i> | 216 |
| 141. The Galvanic Cautery in the Treatment of Uterine Disease. By <i>Mr. Ellis</i> | 216 |
| 142. The Perchloride of Iron in Hæmorrhagic Ulceration of the Uterus. By <i>M. Remily</i> | 218 |
| 143. Treatment of Ovarian Tumours by Iodine Injections. By <i>Professor Simpson</i> | 218 |
| 144. Case of Ovariectomy. By <i>Mr. Erichsen</i> | 220 |
| 145. Case of Dislocation of the last Lumbar Vertebra forwards. By <i>Dr. Spaeth</i> | 223 |
| 146. Case of irreducible Retroversio Uteri rendered fatal by Pregnancy. By <i>Mr. J. B. Brown</i> | 225 |
| 147. Two Cases of Uterine Catheterism which were followed by Death. By <i>M. — and M. Brocca</i> | ib. |
| 148. Case of Extirpation of the Uterus and Ovaries. By <i>Dr. Burnham</i> | 226 |
| 149. Curious Case of Vesico-Vaginal Fistula. By <i>Dr. Sims</i> | 229 |
| 150. Two curious cases of Impalement per Vaginam, and Recovery. By <i>Dr. Bryan and Dr. Sargent</i> | 230 |

(c) *Concerning the Diseases of Children.*

| | |
|--|-----|
| 151. Importance of marking the Condition of the Anterior Fontanelle in the Treat- ment of Diseases of Infants. By <i>Mr. Hilton</i> | 233 |
| 152. Some Points in connection with the Rheumatism of Children. By <i>Dr. Will- shire</i> | 233 |
| 153. Milk-abscess in Infants. By <i>M. Guillot</i> | 235 |
| 154. The Treatment of Hooping-cough. By <i>Dr. Todd</i> | ib. |
| 155. Acute Peritonitis in Children at the Breast. By <i>M. Henriette</i> | 237 |

REPORTS ON THE PROGRESS OF THE MEDICAL SCIENCES.

I.—*Report in Medicine, &c.*

| ART. | PAGE |
|--|------|
| 1. <i>Baly, Gull, and others</i> on Cholera | 244 |
| 2. <i>Guggenbühl</i> on Cretinism | 251 |
| 3. <i>Wells</i> on Gout | 253 |
| 4. <i>Radcliffe</i> on Epilepsy and Allied Affections | 258 |
| 5. <i>Thompson</i> on Pulmonary Consumption | 265 |
| 6. <i>Stokes and Bellingham</i> on Diseases of the Heart and Aorta | 270 |
| 7. <i>Webster</i> on the Sanitary Aspect of England during 1853 | 277 |

II.—*Report in Surgery.*

| | |
|--|-----|
| 1. <i>Hester, Gibb, Smith, and Marcet</i> on new Surgical Appliances | 290 |
| 2. <i>Holthouse</i> on Strabismus | 306 |
| 3. <i>Wilde</i> on Aural Surgery | 312 |
| 4. <i>Thompson</i> on Stricture | 316 |

III.—*Report in Midwifery and Diseases of Women and Children.*

| | |
|---|-----|
| 1. <i>Duncan</i> on the Duration of Pregnancy | 332 |
| 2. <i>Barnes and Radford</i> on Galvanism as an Obstetric Agent | 336 |
| 3. <i>Mackenzie</i> on the Source of Hæmorrhage in partial Separation of the Placenta | 343 |
| 4. <i>Hardy</i> on the local application of Chloroform Vapour in Uterine Disorders | 353 |
| 5. <i>Lever and Hilton</i> on a new Operation for Laceration of the Perineum, &c. | 360 |

IV.—*Report in Physiology.*

| | |
|---|-----|
| 1. <i>Virchow and Eusk</i> on the presence of Cellulose and Starch in Man | 365 |
| 2. <i>De Chaumont</i> on the Effect of Chloroform on the blood of Leucocythæmia | 370 |
| 3. <i>Brown-Séquard</i> on "Spontaneous Muscular Contraction," and on the Rhythm of the Heart | ib. |
| 4. <i>Hilton</i> on some Points in the Physiology of the Cranium | 374 |
| 5. <i>Bernard</i> on the Sugar-producing function of the Liver | 377 |
| 6. <i>Hirsch</i> on some doubts in the Prevailing Theories of Procreation | 379 |
| 7. <i>Herbst and Leuckart</i> on the Development of Entozoa | 380 |

HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

&c. &c.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

(A.) HYGIENE.

ART. 1.—*On the Prophylactic Influence of Quinine.*

By Dr. BRYSON, R.N.

(*Medical Times and Gazette*, Jan. 6, 1854.)

“It has long been a standing rule in the Navy,” writes Dr. Bryson, “enjoined by the 9th Article of the Surgeons’ Instructions, that when men are to be sent on shore, in tropical climates, to procure wood and water, or on other laborious duties, the surgeon, if he consider it advisable, is to recommend for each man, previously to his leaving the ship in the morning, a dram of powdered bark in half a gill of wine, and the like quantity of wine after the mixture; or, if there be no wine on board, one eighth of a gill of spirits, mixed with the fourth of a gill of water, is to be used in lieu of it; and the same proportion of each is to be given to the men on their return to the ship in the evening. Though this rule has been pretty generally observed in some vessels, particularly in unhealthy climates, and in localities known to abound in the exciting causes of fever, still it has nearly as often been neglected, because, in many instances, the bark did not appear to have had any influence whatever in preventing fever; while in others it appeared so doubtful, that many intelligent medical officers lost all faith in it; still there were cases occasionally occurring, which showed

that its protective influence could not be disputed. For instance, twenty men and one officer were employed on shore for one day at Sierra Leone; to the former, bark mixed with wine was given; but the latter refused to take it. He was the only person of the whole party who was subsequently attacked with fever.* Again, two boats' crews were detached from the Hydra to examine the river Sherbro. They remained away a fortnight, and, during the whole time, took bark and wine, as directed by the instructions; yet, though the locality is a most dangerous one, not one case of fever followed; but another boat's crew, who were absent for two days only, in the same locality and at the same time, who did not take bark, were all attacked except the officer in command of the boat."†

* * * * *

Convinced that the preventive influence of bark and quinine had never been fairly tried, Dr. Bryson, in 1847, in a Report on the African Station, suggested that quinine should be given, not exactly on a different plan, though with a somewhat different object in view, and this suggestion was adopted; and the results, upon the whole, are most satisfactory.

A strong, spirituous solution of amorphous quinine was mixed with several pipes of wine, in the proportion of four grains of the salt to an ounce of the wine; a number of cases, or boxes, was then made, capable of holding a certain number of bottles; these, on being filled with the medicated wine, one or two boxes, according to the size of the vessel, were supplied to each cruiser employed on the African station. The object in supplying the cruisers with medicated wine-chests was, that they might at all times be ready and at hand to put into boats suddenly required to proceed on detached service. Thus the quinine—which, when carried in paper, or bottles, was not only apt to be lost or blown away, but had to be given in uncertain doses, and therefore could not be husbanded—was secured, and the wine was effectually destroyed for any other purpose. Instructions for the administration of the wine according to the above plan were placed in each box, and the medical officers were requested to note and report on its effects. The following extracts will show the estimation in which it is held by the medical officers on the African station:—

"I found bark and rum given to the men going away on duty of the greatest benefit; but, from the bulk of the bark, and the small quantity of the rum, if the men were not watched closely, they would not take the draught at all. All that could be desired is now obtained in the medicated wine."‡

"Eighteen men were detached in the pinnace and whaler to cruise off Banda Point and Mayamba Bay, in the months of February and March. They were absent for twenty-four days. I directed an ounce of quinine wine to be given daily to each person, and it is satisfactory to state that no sickness whatever occurred."§

"Two boats' crews have been constantly on detached service, close in shore, where the effluvium, wafted from the land by the morning breeze, is very

* Report on African Station, p. 49.

+ 1b. p. 218.

‡ Dr. J. Walsh.

§ Thomas Pickthorn, Esq. Assistant-Surgeon.

offensive, and highly pregnant with the odour of decomposing vegetable matter. The immunity from disease of those engaged in this service, I attribute chiefly to the regular use of quinine wine and bark together with protection by good awnings."*

"The boats remained in the Pongas one night, and the crews,—officers and men amounting to twenty-four in number,—were exposed to the sun the greater part of two days. Quinine wine was given in ounce doses for eight days afterwards, and I attribute the exemption of the greater part of the people from fever to its use."†

It may be stated, that these extracts afford no proof of the preventive influence either of bark or quinine beyond the opinion expressed by the several reporters; but when taken in connexion with those which follow they appear in a different light, and form a kind of presumptive evidence which cannot well be rejected.

"During the time the boats were up the Scarcies, I gave an ounce of the solution of quinine to each man daily, and continued it for ten days afterwards; and, although the rains were commencing, and the men were often wetted through, I had not a case of illness."

"The boats were frequently away cruising in the mouths of the rivers, or else blockading the coast between Delagoa Bay and Mozambique. I had frequent opportunities of observing the prophylactic effect of the quinine wine. In only one instance did fever follow its use, and that was of a mild character. This contrasts strongly with the seizure of a whole boat's crew with fever in March, 1851, when no wine was administered, as it was lost in crossing the bar of the river. The men greatly prefer it to the bark."‡

"The gig was detached in the Boom-kittam; quinine wine, in the usual dose, was given night and morning, and continued for fourteen days after its return. A boy (Wm. Roberts), from dislike to the quinine, took at most but three doses. He was the only one of the boat's crew that suffered from fever, which occurred ten days after leaving the river."§

"While coaling at Sierra Leone, the weather was very wet, and on their several duties both men and officers were unavoidably much exposed to the rain. An extra allowance of grog and quinine was given to each man, and continued afterwards for a day or two to such as seemed to require it. Mr. ———, however, placed no faith in its preventive influence, and would not take it, and he alone suffered an attack of fever, which proved fatal."||

"A boat's crew, belonging to the Pluto, were employed for twenty-five days up the Congo. The wine was regularly supplied, but it caused one of the men to vomit, and therefore he discontinued its use; he was the first to suffer from fever. Only one other case occurred among the crew.

"During our stay in the river Lagos quinine wine was regularly offered to the men morning and evening,—all took it, I believe, except two midshipmen and two seamen belonging to the galley. These four persons subsequently each suffered a severe attack of fever."¶ While, in the whole force, consisting of upwards of 220 men, there occurred only a few other cases of trifling importance.**

"When in the river Lagos the men had more than an ounce of quinine wine morning and evening, and not a case of fever occurred, though the vessel was nine days in the river.††

"Thirty-six men belonging to the Water Witch were employed at the attack

* William Webber, Esq.

† Mr. Beaumont.

|| A. Sibbald, Esq.

** Mr. Carpenter.

† J. A. Corbett, Esq.

§ Return from Teazer, March. 1853.

¶ Mr. Heath, Surgeon.

†† Journal of the Teazer.

on Lagos; they were in the river four or five days, and, with the exception of three, all took quinine wine while there, and for fourteen days after they left it. Of the whole number, five only were attacked with fever, namely, the three men who did not take the wine, and other two, who most imprudently exposed themselves to the sun, and bathed while much heated by violent exercise."

"On the morning of the 25th of November, seventy-seven men from this ship went up the river Lagos, to attack the town. Before starting, every officer and man were ordered to take a glass of quinine wine; and a sufficient quantity was put into the boats to repeat the same at night. All, to the best of my knowledge, took it, with the exception of Mr. D., master's assistant, who rather plumed himself on having escaped *taking a dose of physic*. This young gentleman, on the 10th of December, just a fortnight after, was seized with a violent attack of remittent fever; and of the whole number who entered the river, he is the only one who, up to this date (the 7th of Jan.), has been attacked."

Among the reports received from the African coast, there are a few which mention the failure of quinine wine as a preventive of fever; but by far the greater number affirm, that already it has been of most essential service, especially when administered according to the instructions; and that it should invariably prove effective against long-continued exposure in open boats, by night and day, amid the effluvia arising from the rotting slime of a Mangrove swamp, is surely more than ought to be expected. There are bounds or limits to most things in this world of ours, at least so we are led to believe. The failure of quinine, therefore, in cases similar to the above, particularly if accompanied by inebriation, need not excite astonishment. But, after all, on carefully examining the reports which mention its failure, it appears that, with hardly an exception, there was some error committed in administering the medicated wine; it was either not given in sufficiently large doses during the exposure to miasmata, or its use was discontinued long before the incubative period of the fever had expired; and though it was supposed to have failed, or to have been only partially effective, it is nevertheless admitted, that the fevers which took place were far less severe and less fatal than usually happens when no quinine has been administered.

One remarkable fact remains to be stated. By an interesting and ably-drawn-up report received from Dr. Burton, the surgeon of the flag-ship on the African station, it appears, that the number of deaths among the Europeans in the squadron has for several years past been gradually diminishing, until it has come down to an equality with that observed on the more healthy stations. During the preceding year, the ratio of deaths from disease to the 1000 of mean force, only amounted to 6·9! A result so unexpected must necessarily afford the most unqualified pleasure to those who take an interest in the abolition of that "horrid trade" which has brutalised some of the fairest portions of the globe, and rendered the coast of Africa a kind of Pandemonium, fit only to be inhabited by the offscourings of civilised society. Still, though the general use of quinine wine as a preventive of fever has most unquestionably been productive of much good, it is not intended to claim for it a tithe of the credit which is due for the improved state of health in the protective squadron; the great diminution in the ratio of mortality from fever is mainly, if not entirely due to the admirable mode in which the duties of the station have been carried out by the justly esteemed Commander-in-Chief, Rear-Admiral Bruce, who, in driving the slave-dealers from their strongholds, has never forgotten the necessity of providing for the welfare of the white men entrusted to his care.

ART. 2.—*On Vaccination as a Safe and Efficient Prophylactic.*

By Dr. EDWARD SEATON.

(Report on Smallpox and Vaccination, May, 1853.)

[The following interesting quotation is from the very admirable Report on the state of Smallpox and Vaccination in England and Wales and other countries, and on Compulsory Vaccination, presented to the President and Council of the Epidemiological Society by the Smallpox and Vaccination Committee, in March, 1853.]

"We are ourselves satisfied, and it is the concurrent and unanimous testimony of nearly 2000 medical men, with whom we have been in correspondence, that vaccination is a perfectly safe and efficient prophylactic against this disease.

"This proposition we hold to be proved,—

"1. By the general immunity with which it is found that those who have been vaccinated can mingle with smallpox patients, a fact so familiar that we do not feel that we need adduce any illustration of it.

"2. By the gradual decrease which has taken place in the mortality from smallpox, as compared with the mortality from all causes, since vaccination has been introduced and been generally received. This is illustrated in the following tables:—

"(A.) Table showing the average of deaths from smallpox out of every 1000 deaths from all causes, within the bills of mortality, for decennial periods, during the last half of the last century (the half century preceding vaccination).

| | | | | | | |
|-------------------------|------|------|---|---|---|-----|
| For the 10 years ending | 1760 | . | . | . | . | 100 |
| " | " | 1770 | . | . | . | 108 |
| " | " | 1780 | . | . | . | 98 |
| " | " | 1790 | . | . | . | 87 |
| " | " | 1800 | . | . | . | 88 |

"(B.) Table showing the average of deaths from small-pox out of every 1000 deaths from all causes, within the bills of mortality, for decennial periods, during the first half of the present century (the half century succeeding the introduction of vaccination).

| | | | | | | |
|-------------------------|------|------|---|---|---|----|
| For the 10 years ending | 1810 | . | . | . | . | 64 |
| " | " | 1820 | . | . | . | 42 |
| " | " | 1830 | . | . | . | 32 |
| " | " | 1840 | . | . | . | 23 |
| " | " | 1850 | . | . | . | 16 |

"The steady progression indicated in the second of these tables is very remarkable, and is strictly in accordance with what has been observed to take place in foreign countries. In further illustration of this subject, we have contrasted in the following table the mortality from smallpox in various European states, for periods specified (generally of 10 years), before and after the introduction of vaccination. The returns from which this table is compiled, will be found in the 'Tables exhibiting the Mortality, &c., from Smallpox, in various countries in Europe,' printed at the end of this report.

Table showing the Average of DEATHS from SMALLPOX out of every Thousand Deaths from all Causes, in various European Countries, for Periods specified, before and after the Introduction of Vaccination.

| Country or Province, &c. | Before Vaccination was introduced. | | After Vaccination was introduced. | |
|----------------------------|---------------------------------------|--|--------------------------------------|--|
| | Period. | Smallpox Deaths per 1000 Deaths. | Period. | Smallpox Deaths per 1000 Deaths. |
| Lower Austria | 10 years ending 1786 | 67 | 10 years ending 1846 | 7 |
| Upper Austria and Salzburg | " | 46 | " | 6 |
| Styria | " | 31 | " | 10 |
| Illyria | " | 21·75 | " | 7 |
| Trieste | " | 142 | " | 5 |
| Tyrol and Voralberg . . | " | 42 | " | 4 |
| Bohemia | " | 58 | " | 1·33 |
| Moravia | " | 54 | " | 1·75 |
| Silesia (Austria) . . . | " | 66 | " | 2 |
| Gallicia | " | 38 | " | 9·5 |
| Prussia, Eastern Provinces | 1776-80 | 111 | 1832-50 | 12·33 |
| " Western Provinces | 1780 | 75 | " | 10 |
| Posen | " | 71 | " | 22·50 |
| Brandenburgh | 1776-80 | 82 | " | 8·75 |
| Westphalia | " | 85 | " | 6 |
| Rhenish Provinces . . . | " | 33 | " | 3·75 |
| Berlin | 1781-1805 | 77 | " | 5·50 |
| Saxony | 1776-80 | 27 | " | 8·33 |
| Pomerania | 1780 | 74 | " | 7·50 |
| Prussia | 1776-80 | 82 | " | 7·50 |
| Sweden | 1790-1800 | 71 | 1840-50 | 2·7 |
| Average | | 66·5 | | 7·26 |

"3. In those states and kingdoms in which, by compulsory legislation or otherwise, vaccination is most efficiently carried out, the mortality from smallpox is the least."

ART. 3.—*On the Comparative Exemption of Publicans from Phthisis.*
By Dr. ATKINSON, Physician to the Wakefield Dispensary.

(*Lancet*, Feb. 25, 1854.)

"I have endeavoured," writes Dr. Atkinson, "to furnish an approximation to correct results by examining the registries of deaths in Wakefield for the last ten years, commencing on the 1st of May, 1843, to the 1st of May, 1853; and although I am aware the numbers are far too small to justify a decisive conclusion, they are, as far as they go, satisfactory. All will admit that perhaps no class takes more

alcoholic stimulants, in proportion to the rest of the inhabitants, than publicans. Thus I have selected these out by way of experiment, to ascertain the relative mortality from phthisis in this class of men. I have arranged the deaths under the four following heads :—

| | | | | | |
|-----------------------------------|---|---|---|---|------|
| Deaths from general diseases | . | . | . | . | 3329 |
| „ „ phthisis | . | . | . | . | 541 |
| „ „ general diseases in publicans | . | . | . | . | 25 |
| Phthisis in publicans | . | . | . | . | 2 |

“It appears, therefore, from the above figures, that rather more than one sixth of the deaths amongst the whole population of the town arise from phthisis, whereas in publicans scarcely one twelfth die from this disease during the same period. But these numbers, if taken without correction, fall far short of representing the real disparity between the deaths from phthisis among publicans, as compared with the deaths occurring from phthisis among the population at large; for the 3329 represents the deaths at all ages; but as about one half of that number occurred in persons under fifteen, and as persons rarely die of phthisis under fifteen, and as publicans are all above fifteen, the figures should stand thus :—

| | | | | | |
|-------------------|---|---|---|---|------|
| Deaths above 15 | . | . | . | . | 1665 |
| „ from phthisis | . | . | . | . | 541 |
| Publicans' deaths | . | . | . | . | 25 |
| „ „ from phthisis | . | . | . | . | 2 |

Showing a general mortality among adults from phthisis of rather less than 1 in 3, and in publicans, 1 in 12½. Now, allowing great latitude for accidental mistakes, still the mortality by phthisis in publicans is comparatively small. What a more extensive investigation would prove, it would be difficult to say; however, there is here sufficient to demand further inquiries.”

(B.) ACUTE DISEASES.

ART. 4.—*Upon the Treatment of Fever by Stimulation.* By
Dr. BRINTON, Physician to the Royal Free Hospital.

(*Lancet*, Dec. 17 and 24, 1853.)

The subjoined quotations, which are taken from a paper on the general treatment of fever, are of great interest and importance as connected with the remarks of Dr. Todd on the same subject.

Dr. Brinton states it to be one of the chief objects of his paper,—“to record the successful results of my careful and deliberate trial of a system of stimulation which was proposed some years ago by my friend and former colleague, Dr. Todd. This consists in the frequent exhibition of very small quantities of brandy diluted with water, alternately with beef-tea and other fluid food. The *rationale* of this plan I presume to be that ordinary port wine is a mixed fluid of uncertain strength, which requires digestion, and has the additional disadvantage of sometimes acting upon the bowels; while brandy is taken up at once by the veins of the alimentary canal. The smallness and frequency of the dose in which the stimulus is administered are equally important; for

it makes every difference to the patient whether his exhausted system is sustained by minute doses of alcohol every hour or half-hour, or partially intoxicated three or four times in the day. In the latter case the reaction between each of the separate doses sometimes places him in a far worse position than if no stimulus whatever had been given.

“But whatever may be thought of this explanation of the above plan,—for which it ought to be stated that I alone am responsible,—few who had seen the cases under my care in the Royal Free Hospital could have doubted its efficacy. And one point of great importance respecting it is the fact that, at this stage of the disorder, severe febrile symptoms do *not* contra-indicate its use. Repeatedly have I seen all the appearances of fever clear off as though by magic under a quantity of stimulus (sometimes amounting to twenty-four ounces of brandy daily), which might well alarm any one who had not had practical experience of its effects. Whether its efficacy might not be reduced to some more exact and physiological statement than that of ‘supporting the strength,’ I hardly dare inquire, lest it should lead me to a topic which, though interesting, would be irrelevant here,—the relation of fever to combustion and animal heat. Thus much, however, may be pointed out, that alcohol is comparatively a very pure carbonaceous diet, and an agent which appears to check the process of waste in all tissues.

“The additional treatment adopted with reference to the fourth class of cases may be described as chiefly directed to the intestinal symptoms characteristic of typhoid. Here again I have to own that one of the chief features of my treatment has been derived from my former teacher, Dr. Todd, who has long laid great stress on the use of turpentine in these cases. The distressing pain and tympanites is generally much relieved by stupes, consisting of turpentine sprinkled on a hot, wet flannel, and applied to the region of the cæcum. One great advantage possessed by these applications over blisters consists in the frequency with which they may be repeated. The same drug may also be administered by the mouth and rectum. But of the two the enema appears to be more efficacious than the mixture. And even apart from this fact, since the majority of these cases also require the very frequent administration of brandy and beef-tea, it is preferable in all but extreme cases to leave the stomach free for the latter, by giving the enema only. To both enema and mixture I have generally added full doses of the vegetable astringents with great advantage. And it is scarcely necessary to allude to the value of opium, which, unless expressly contra-indicated by the cerebral symptoms, should generally be an ingredient of the glyster. The following prescriptions are those which figure most frequently in my notes:—Spirits of turpentine, five minims; tincture of catechu, half a drachm; mix, and afterwards add one ounce of infusion of krameria; make into a draught; to be taken every fourth hour. Spirits of turpentine, thirty minims; tincture of catechu, two drachms; tincture of opium, fifteen minims; mix; to be added to two ounces of decoction of starch, for an enema.

“The small bulk of this enema gives it a better chance of its being retained, which it very often is. Its efficacy in controlling the diarrhoea is remarkable;—so much so, that while the febrile symptoms

continue very prominent, I have generally suspended its use as soon as it has reduced the evacuations to three or four per day, having reason to doubt the propriety of checking them where they do not threaten any serious drain to the system.

“The efficacy of the treatment just sketched out may be best imagined from an example like the following.”

M. W—, æt. 42, was admitted into the hospital, February 14th 1853, at about the tenth day of typhoid fever. When brought in she might almost have been termed moribund. Her skin was of a brick-red hue, and of a pungent, dry, but not excessive heat. Her pulse of about 130 per minute, was feeble, fluttering, and at times scarcely perceptible. She lay supine and unconscious; breathed stertorously; was blind and deaf; in short, the only relics of the animal functions were evinced by her still executing the movements of swallowing, and moaning when her tympanitic belly was pressed in the region of the cæcum. Her urine and fluid fæces were passed involuntarily, the latter at very frequent intervals. The integuments over the sacrum had sloughed.

She was ordered half an ounce of brandy with one ounce of water, every hour, and beef-tea as frequently in the alternate half hours. A turpentine stupe was applied to the belly, and the above enema administered. The two latter remedies were repeated in the course of two or three hours. The distressing state of the bladder and nates was also attended to. But I did *not* apply blisters, as perhaps I ought to have done: for not only did the state of the pulse and bowels render me less desirous of doing so, but, to say the truth, I had grave doubts whether the patient would live till a blister rose, and was also very anxious to concentrate the nurse's whole attention on the sedulous repetition of the stimulants and enemata.

On my next visit the patient was still living, but without any apparent amendment. Finding that she had swallowed better than I expected, the quantity of brandy was raised to eighteen ounces, and, after a few hours, to twenty-four ounces per day, to be divided into rather larger and more frequent doses than before.

The next day the stools were no longer passed involuntarily; and the pulse was decidedly improved in both force and rhythm, though nearly as frequent as before. She was sensible of the noise made by shouting loudly in her ear, but seemed not to be capable of appreciating the words used. Her skin was rather paler, and much less pungent to the feel.

From this time she gradually amended in every respect. The diarrhoea soon diminished in frequency, but continued for a fortnight to claim the most constant and watchful attention. But long before this the patient had recovered her senses, her eye had brightened, her skin had cooled down, her pulse had dropped, her tongue had peeled, she had perspired, and was, in fact, convalescent. Her recovery was, however, very much retarded by the presence in her bladder of a quantity of rough precipitated phosphates, which had doubtless accumulated there during the distention and paralysis of this organ, that had preceded her admission. Very little alleviated by treatment, the intense pain and partial hectic produced by this mortar-like mass were terminated by its gradual discharge piecemeal through the urethra, and she left the hospital cured.

Another case which may well illustrate the good results of the same plan is that of a woman who had been subjected to an operation for the relief of an ulcerated leg by my colleague, Mr. Gay. She was attacked with typhoid fever, and transferred to my care. The fever was very severe, and all healing

action in the leg was already suspended, when another grave disorder supervened, in the shape of erysipelas of the limb. This spread upwards from the ulcer of the leg, and terminated in abscesses of the thigh and groin. In spite of all these serious complications she made a very fair recovery, so as to be discharged from the hospital cured of all her complaints, and with a leg which did great credit to Mr. Gay's new operation, its large ulcer of many years' standing being covered by a firm cicatrix. I believe my esteemed colleague once or twice felt rather nervous on seeing the large quantity of brandy our patient was taking daily; and, to say nothing of the stimulus and support she received, I am persuaded that, unless the characteristic diarrhœa had been instantly controlled, this case must have been lost.

"I might multiply instances in which a similar treatment has been attended with scarcely less striking results, but prefer to end this sketch by a numerical summary. Of these 77 cases of fever, 8 died. Of these 8 deaths, 4 were due to typhoid, and 4 to typhus. As the typhoid cases were about five sevenths of the whole, the mortality of this disease, which is usually regarded as the more fatal, was only two fifths that of typhus. The reader will probably be surprised at this difference, and may perhaps doubt whether one can lay any stress upon so small a number as 4. But the real comparison is that between 53 and 23. With this qualification I can share his surprise and doubt, which at present only allow me to conjecture, what longer and wider experience must refute or confirm—namely, that while we can often control the diarrhœa of typhoid, and remedy its exhaustion, the cerebral symptoms of the second and third weeks of severe typhus will frequently defy all the resources of our art.

"Returning to the general results of the treatment of both kinds of fever, 8 deaths in 77 cases will represent a mortality of about 10·4 per cent. I think this would generally be regarded as a low rate for the class of cases usually received into metropolitan hospitals,—especially if it be remembered that I have excluded those numerous instances of ephemeral fever, or febricula, which are often included under the common name of fever in hospital returns. But it is very difficult to compare the cases of different institutions in all those minute details which are necessary to ensure a true parallel. Such circumstances as the population from which they are derived, the amount of selection exercised in admitting them, and the character of the various epidemics themselves—all these are important elements, which we can rarely regard as identical for any two groups of cases. And yet without such an identity it is obvious that their mortality may differ to almost any extent.

"There is, however, one comparison which appears far more valid and significant than any of these could be; since it applies to a large number of patients, derived from the same localities, suffering from the same epidemics, and placed in exactly the same circumstances with those above mentioned in all respects save one—that of the treatment pursued. And I trust that, in adducing such a comparison, the reader will believe me actuated by no motive but that of placing fairly before him the numerical results of a plan which, as it appears likely to be of advantage to human life, it is the duty of any one holding a public and responsible position to promulgate and recommend. My late

lamented colleague, Dr. Chambers, was a gentleman whose long experience as an hospital physician, and great humanity and skill, sufficiently vouch for the manner in which his patients were treated. During the period he held my present appointment of senior physician, forty-nine cases of fever came under his care: of these ten died, making a mortality of about 20·4 per cent. Far from my having any reason to think these cases more severe than my own, I have reason to suspect that, on the whole, they were less so,—both intrinsically—and in consequence of my excluding *febriculæ* from my list. Whatever may be thought of this mere numerical contrast, I think those who witnessed the cases themselves found their comparison still more impressive. Among such impartial and competent observers, I may especially name Messrs. Lane and Curgenvén, the late and present house-surgeons of the institution; both of whom soon recognised the merits of this plan of treatment, just as I had myself been obliged to confess the efficacy of some of its chief features when house-physician at King's College Hospital seven years ago."

ART. 5.—*On the Treatment of Fever by large doses of Quinine.* By Dr. CORBYN, Superintendent-Surgeon of the Punjaub Division.

(*Indian Annals of Medical Science*, No. 1, Oct., 1853.)

The following strong testimony in favour of this mode of treatment is from the 'Annual Report on European Troops,' for 1851-52. Dr. Corbyn writes and quotes as follows:—

From my long experience of the treatment of fever by large doses of quinine, when this disease broke out with such violence in its typhoid form at Anarkallie and the Citadel, I urged on the attention of medical men, when I went through their hospitals in August, the immediate necessity of prescribing quinine in large doses, as 20 grains for instance in each. Their apprehension was that the expenditure by such a practice would be so great that they could never obtain an adequate supply, but I soon allayed their fears, by demonstrating the fact that the expenditure would be 50 per cent. less than in the ordinary practice of administering frequent and after all useless small doses of that invaluable medicine. One or two doses, when large, will eradicate the fever at once, if combined with good effective purgatives. I found that in H. M.'s 90th, small doses were being prescribed, but that in the Horse Artillery, on the contrary, the very opposite treatment was pursued.

Dr. Mackinnon thus remarks on the success of this method; his success was wonderful:

The cases of intermittent fever were so numerous, that I had full opportunity of trying every mode of administering quinine, and I have come to the conclusion that the most effective and the most economical mode of administering it, is to give it in a single large dose, at or towards the termination of the sweating stage. It is now my practice to give 3ss. at that period, and I have never seen it fail to put a stop to the disease at once. I have given the same quantity 6 or 8 hours before the accession of the paroxysm, but I found its effect uncertain: it often checked the paroxysm, but it sometimes failed to do so, in the latter case, however, though one

paroxysm succeeded the dose, I never saw a second follow. It was this circumstance which led me to conceive, that the period of 6 or 8 hours was too short for the full development of the antiperiodic effects of the medicine, and I was thus induced to prescribe it at the termination of the sweating stage. I have found it equally effective in tertian as in quotidian intermittents.

"Lesser doses of from 20 to 25 grains I have found so often fail, that I adhere now in every instance to the large dose.

"I have not found it produce vertigo, tinnitus, or other cerebral disturbance in a greater degree than small doses frequently repeated do; in fact, as the period of administration of the medicine usually occurs late in the evening, the patient gets his dose at bed-time, falls asleep, and if any sensations of vertigo, or tinnitus, or of other cerebral disturbance are experienced in the morning, they are usually slight. I prescribe the medicine without much reference to the state of the bowels, if they are confined, a purgative is either given along with the dose, or deferred till the succeeding morning, as the case may seem to require. If they are easy, I often give no medicine but the quinine.

"The great recommendations of this mode of administering quinine in hospital practice are: 1st. That it economises the expenditure of the drug: in the usual plan of giving quinine in repeated doses, from 40 to 50 grains and upwards are often consumed in the treatment of a single case,—rarely, in the intermittents of hot climates, so little as 30 grains. 2d. That the soldier returns to his ranks more rapidly. If the case is recent, and uncomplicated with local derangement, the patient is sometimes discharged on the 2nd day after admission, but usually on the 3d day, an earlier period than was attainable on the old plan of treatment. Occasionally admission into hospital is not desired, but the patient comes in the evening, swallows his dose of quinine, and returns to the ranks. 3d. That it makes fewer demands on the attention of the hospital subordinates, and diminishes greatly the amount of their labour, instead of having repeated doses at specific hours to administer, a matter in an hospital full of cases of ague, involving no small labour, and requiring considerable attention as to time, there is only one dose to be given.

"In remittent fever, I have also, during the remission, prescribed a single large dose of quinine with the best effects; but the cases in which I have so prescribed it, have been too few to admit of my giving an unqualified opinion as to the superiority of this over the 'common mode of administering the remedy.'"

Dr. Mackinnon did not conceal his treatment under a bushel, but communicated his success to his assistant, Dr. Mactier, in medical charge of the 3d troop of his brigade, which was then stationed at Loodianah, and where fever was prevailing to a fearful extent. Dr. Mactier thus describes the disease, and his success also.

"The only disease which has prevailed to any remarkable extent in the troop, during the past year, has been intermittent fever, but from this they suffered so much as to attract the notice of Government, and cause their removal from Loodianah to Jullundur. Occasional cases of fever occurred during the early part of the year, but it was not until August, that the number became in any degree remarkable. From this time, however, they rapidly increased, till about the 20th of October, when the disease reached its maximum. On one occasion, 12 cases out of 100 men were admitted into hospital on one day, and it was no unusual thing to have 40 sick under treatment, besides 10 to 20 convalescent: with only two exceptions every individual in the troop, including women and children, has suffered from one

or more attacks of fever. It is a subject of congratulation that out of 356 cases of fever, treated during the season, only one proved fatal. The symptoms of the disease were the same as have generally been remarked. On its appearance, the cold stage was frequently absent, but this became more and more marked, and latterly, it was the one from which the patient suffered most severely. In a few instances, the prostration of strength during the ague fit was so great, that stimulants required to be liberally administered. The most remarkable feature in the disease was the obstinacy with which it returned, after the patient had suffered from one or two attacks. Affections of the spleen were, as might be supposed, exceedingly common, although, in general, they were only temporary. Still, in not a few instances, the organ became chronically enlarged. Seven of the worst cases of the sort have been sent to Landour for the ensuing hot season.

"As regards treatment, the ordinary method of administering divided doses of quinine, was for some time had recourse to, and with the usual result—the disease was cured, but not until the medicine had been taken for several days. In October I began to adopt the plan of giving one large dose of quinine, 20 to 30 grains, a few hours before the expected paroxysm, and the results were in the highest degree satisfactory. Latterly, however, I have tried another method, which, in my practice at least, has proved decidedly more successful, viz., instead of giving the large dose of quinine before the febrile paroxysm, I now administer it just after the sweating stage has subsided. Since this treatment was suggested to me, by Dr. Mackinnon, of the 3d Brigade H. A., in November, I have never thought of employing any other as, out of upwards of 50 cases, in only two has it failed immediately to cut short the attack. I have never seen disagreeable symptoms result from the large doses of quinine; headache and giddiness have certainly occasionally been complained of, but not more frequently than when the small repeated doses were given. The simplicity of the treatment, the saving of trouble to the attendants, and the reduced expenditure of the medicine, are all recommendations in favour of this practice, which, though by no means a new one, has not, I believe, been generally adopted. In the treatment of Natives, large doses proved alike economical and successful."

Phillour, like Loodianah, suffered unprecedently from this severe fever during the year 1850, admissions during July, August, September, October, and November, of fever cases were 1,751, died 10. But during 1851, Assistant-Surgeon Frederick Corbyn, M.D., took medical charge. It was to be supposed, from the repeated attacks of almost every man in the regiment this year, that they would be more weakly and predisposed, and that greater mortality would ensue. Dr. Corbyn prescribed 20 grain doses of quinine, accompanied with a brisk purgative, hence, though during July, August, September, October, and up to 8th November, there were 1,037 fever cases admitted, not one died; but, beside the sick of the 49th Regiment, there had been a considerable number of fever cases among officers, conductors, and serjeants and their families, as well as among the arsenal establishment, in all of which recovery took place under the same treatment.

ART. 6.—*On the Internal Administration of Chloroform in Fever.* By Dr. GORDON, Physician to the Hardwicke Fever Hospital.

(*Dublin Hospital Gazette*, Feb. 1, 1854.)

The subjoined cases are related for the purpose of showing the

beneficial action of chloroform in allaying the insomnia and nervous irritation of fever.

CASE 1.—Patrick Dempsey, æt. 25, was sent from Santry to the Hardwicke Hospital, on the 8th of December; he was then eleven days ill of fever; his body was covered with dark-coloured maculæ; his pulse was 110 and very weak, his speech muttering and indistinct; he has subsultus in both upper and lower extremities. His head was shaved, he was ordered the bark mixture of the hospital, and half a pint of wine. Late in the evening he began to rave violently, and could not be induced to remain in bed; he was ordered large doses of hyoscyamus, and the back of his head was blistered; he was so violent as to require the use of a strait waistcoat all night.

December 9th.—Has not slept since admission. Pulse 132; very weak. He continues constantly muttering and raving. Tongue dry and brown; eyes slightly suffused; head not very hot; respiration short, frequent, and irregular. He still requires the strait waistcoat to keep him in bed. He was now ordered twenty-five minims of chloroform in a draught, to be repeated in an hour.

After the second draught his agitation and restlessness ceased, and the waistcoat was removed. He dozed a little through the day, but only for a few minutes at a time. Towards night he again became restless and delirious; the same quantity of chloroform was again administered, and repeated in an hour, when he fell into a sound sleep which continued for nine hours. He awoke perfectly sensible; the subsultus had ceased, and his pulse had fallen to 100. He continued to improve, and in a few days was convalescent.

In this, and other similar cases, chloroform acted by producing anæsthesia of the sensory nerves, and exerting a paralyzing influence on the muscular fibre; and this it appears to effect without depressing or deranging the nervous force, as is the case with sedatives in general, while it is altogether free from the objection of causing depression of the action of the heart, as is the case with some special sedatives. My colleague, Dr. Corrigan, has just treated a somewhat similar case by the internal administration of chloroform. I had an opportunity of daily witnessing the progress of the case; and, by his permission, I here append it, as—

CASE 2.—Denis Beahan, æt. 20, a porter from High Street, was admitted into the Hardwicke Hospital, January 4th, 1854, the fifth day of his illness.

On the sixth day he was thickly covered with bright maculæ. His tongue was loaded, but moist; his pulse 112; respiration 22; no abnormal sound in the lungs; no tenderness of abdomen. He is reported not to have slept for two nights. His eyes are red and injected, and his head hot.

His head was shaved, and cold lotion applied.

Seventh day.—Pulse 116; respiration 28; slept but little.

Eighth day.—Pulse 120; very feeble; respiration 32. Ordered bark and wine.

Ninth day.—Pulse 126; very feeble; respiration 32; head hot; constantly raving, and getting out of bed; no sleep; subsultus of hands; tongue dry; great difficulty of utterance.

Vesicatorium nuchæ;

Eight ounces of wine.

Tenth day.—Pulse 130; weak; raving continually; difficult to restrain; requiring the strait waistcoat; constant talking; no sleep; tongue brown and dry in centre; thirsty; eyes very congested; pupils dilated.

Chloroform was now administered by inhalation, without any other effect than the pulse being slightly reduced in number. The patient was in no way quieted by it. Four leeches were now applied to the temples without any good effect. At 5 p.m. he took ʒss. chloroform by the mouth, and continued

it every second hour till 11 p.m., when, as he did not sleep, and the delirium continued, he got the same dose of chloroform every hour through the night. At 3 a.m. he was somewhat quieter, but the same dose was continued every hour till 8 a.m.

Eleventh day, 10 a.m.—Much quieter, but has not slept. Pulse 110; pupils natural size; subsultus nearly gone; tongue brown all over; sordes on teeth; bowels free; urine high-coloured, sp. gr. 1.020. Another dose of chloroform in same quantity was again administered; about twenty minutes after its exhibition he fell into a quiet sleep, which lasted for two hours. Shortly after waking, he took another half drachm of chloroform, when he almost immediately fell asleep, and awoke after several hours, much refreshed and quite collected.

His return to health was further indicated by the immense quantity of nitrate of urea, which an excess of nitric acid deposited from the urine.

"In the above case," writes Dr. Gordon, "the chloroform was longer in producing its effects than in any instance in which I have as yet used it. We learn from it, however, that we are not to be discouraged by the apparent failure of the first dose or two in procuring sleep, for, as in the present case, although actual sleep may not be at once procured, we may expect that a state of calm and quietness will be induced, which will soon be followed by 'Nature's sweet restorer, balmy sleep.' We learn also from this case, that the inhalation of chloroform is, to say the least, useless in procuring sleep in cases of cerebral excitement in fever. I had, on one occasion before, in the Hardwicke Hospital, fully tried this mode of administering it; its inhalation was followed by general convulsive movements, very similar to an epileptic seizure, and I have not since administered it by inhalation in any similar case. Dr. Corrigan carefully tried the effect of inhalation three times in the above case; each time without any good effect."

ART. 7.—*On the Time of the Accession of Intermittent Fever.*

By Mr. WARING, of the Madras Medical Service.

(*Indian Annals of Medical Science*, No. 1, Oct. 1853.)

The following curious particulars are from a paper entitled 'Medical Notes on the Burmese,' to which further reference will be made elsewhere. The 240 cases referred to were treated in the Civil Hospital, at Mergui.

Hour of day influential in determining the accession.

| HOUR. | CASES. | HOUR. | CASES. |
|---------------------|--------|-----------------------|--------|
| 12 midday | 27 | 12 midnight | 2 |
| 1 p.m. | 12 | 1 a.m. | 3 |
| 2 „ | 48 | 2 „ | 1 |
| 3 „ | 16 | 3 „ | 0 |
| 4 „ | 24 | 4 „ | 0 |
| 5 „ | 22 | 5 „ | 3 |
| 6 „ | 7 | 6 „ | 4 |
| 7 „ | 3 | 7 „ | 2 |
| 8 „ | 3 | 8 „ | 2 |
| 9 „ | 2 | 9 „ | 5 |
| 10 „ | 3 | 10 „ | 24 |
| 11 „ | 1 | 11 „ | 9 |
| <hr/> | | <hr/> | |
| 168 | | 55 | |

Fever appeared at irregular hours in 17.

In other wards the fever commenced—

| | |
|--------------------------|--------------------------|
| From noon to 11 p.m. | in 168, or 70 per cent. |
| From midnight to 11 a.m. | in 55, or 22·9 per cent. |
| Without any regularity | in 17, or 7·1 per cent. |

240

ART. 8.—*On the Influence of Vaccination during the Incubation of Smallpox.* By Dr. BARTHEZ, Physician to St. Margaret's Hospital at Paris.

(*Révue Méd-Chir. de Paris*, Jan., 1853.)

In this memoir M. Barthez confirms the received opinion that smallpox is mitigated and transformed into varioloid in the great majority of cases, if vaccination be performed in sufficient time for the vaccine to get the start of the variolous eruption; but he also contends that occasionally the modification is unfavourable, and that the danger and fatality of the smallpox are increased by the operation. Under these circumstances the fever is said to be typhoid, and accompanied by an hæmorrhagic disposition, and the pustule and its areola badly developed. These results, however, are said to happen in children which are at the same time both young and delicate, and hence there is some reason to doubt whether they are really due to the vaccination.

ART. 9.—*On the Use of Tincture of Iodine to prevent Pitting in Smallpox.* By Dr. CRAWFORD, Physician to the General Hospital at Montreal.

(*Montreal Medical Chronicle*, Nov., 1853.)

For upwards of nine years Dr. Crawford has been in the habit of using a saturated alcoholic tincture of iodine as a local means of allaying irritation and of preventing pitting, and he now adduces considerable evidence in support of this practice. Once or twice a day he paints the face (or any other part where it may be necessary) with this tincture, and this he continues to do from the first appearance of the eruption until the pustules are matured. The pain, which is the immediate effect of the application, is said to subside speedily, and to abate in severity after the first few trials, but this is rarely heeded: on the contrary, the relief to the itching is so gratifying to the patient that he frequently requests the extension of the application to other parts.

Dr. Crawford relates several cases out of his own practice, of which the two subjoined are specimens; and he also appends the testimony of Dr. Bergin, of Cornwall (U.S.), which testimony is of very considerable value.

CASE 5.—*Semi-confluent variola.*—R. C., æt. 15. I was called to this case on the fifth day of the eruption. The girl had been under the care of a medical practitioner, who had not applied the iodine, although it was suggested

to him by the priest, who had seen its advantages in the previous case. The eruption over the face was flat and ill-filled. Although profuse, it was distinct over the body. She was a delicate, dwarfish girl, subject to splenitis. At the period I saw her, she was very weak, depressed in spirits, and sleepless. She was ordered a small quantity of wine and water, and beef-tea frequently, calomel and Dover's powder, and to have the face painted. Although the expectation of benefit was much lessened by the late period of the application, it caused, as usual, some pain, but at the same time afforded so much relief from the itching, that she frequently desired its reapplication. The eruption became confluent on several patches on the limbs; but little eruption on the body. The face swelled, and there was salivation. The scab on the face formed a complete mask, but not very thick. Her spirits revived, and her strength was maintained by wine and soups. Her feet, legs, and wrists became painful and swelled. She, however, recovered well in about three weeks. There remain several small superficial pits on the face, which could not well be otherwise, as the application was so late in being applied, and a mark of a scratch she made before the iodine was applied. But they are evidently very much modified even by the late use of the remedy, and the relief to the itching derived from it was manifest, from her often desiring its application and extension over other parts. Several boils took place on different parts, but she soon recovered. This patient had never been vaccinated. Her eldest sister was vaccinated during the progress of the case, and passed through the stages in a satisfactory manner.

CASE 6.—*Variola confluenta*.—A. A., æt. 15, a delicate-looking boy, had never been vaccinated, nor any of his family, three of whom were vaccinated on the occasion of my being called to see him, and all passed through the regular stages in a satisfactory manner. This boy had, a short time before his illness, received a visit from a young friend, just recovered from an attack of variola. The primary fever and epigastric pain were pretty severe. The eruption was profuse over his face and extremities when I saw him on the second day. The iodine was applied in an unsatisfactory manner, from the interference of the patient and his mother. The eruption soon became very profuse, and confluent on many parts. The tongue and fauces were covered by ulcers; the voice scarcely audible; some cough and expectoration. The iodine produced such a soothing and satisfactory effect, that he soon desired its reapplication, and it was extended to various parts to relieve the itching. The case, although very severe, went on well. Secondary fever was high, and there was much distress from the mucous membrane of the larynx, and from the pustules on the scrotum, and pains of his hands and soles of his feet, which were covered with pustules. He also suffered from rheumatism of the ankles and wrists, which were much swollen. The Dover's powder and calomel afforded him relief and sleep at night. Beef-tea and arrow root were ordered from the earliest day, and latterly wine and quinine. He was convalescent in three weeks, and able to sit up, in good spirits, saying he could dance with nurse, if the sores on his feet did not prevent him. Scarcely a trace of pit or depression being left on the face, whilst the parts unpainted showed numerous pits. On the 23d day from the appearance of the variolous eruption, an erysipelatous blush appeared on the forehead, and a similar one on the knee. An abscess formed in the axilla, and also on the eyelid and ankle. His back also became painful, and affected by erysipelas, and a smart fever supervened. His bowels discharged large quantities of ochrey-looking fermenting and very offensive evacuations, for three or four days, when the fever and erysipelas subsided. About the 30th day the fever returned and assumed a typhoid type; dark, black, dry tongue; muttering delirium, subsultus ten-

dinum, &c. &c. He continued in this precarious state for a week, when he became quite intellectual, and able to tell his wants, and good hopes were entertained of his recovery, when suddenly, after two days of this favorable state, he was seized with dyspnoea and hurried breathing, and died in a few hours. The treatment is omitted, as not being an object on the present occasion. The most satisfactory results were observed to attend the use of the iodine, both by allaying the irritation and preventing marks, scarcely any being perceptible. This case was seen by Dr. Campbell, in consultation, and by others, to witness the effects of the remedy.

"I have," continues Dr. Crawford, "very great pleasure and satisfaction in adding the testimony of Dr. Bergin, of Cornwall, to the beneficial effects of iodine in small pox; who had in 1849 an opportunity of using it on a very extended scale, such as rarely is the lot of any individual in this country. The following summary, which is founded on returns made to the Hon. Colonel Bruce, Superintendent-General of Indian affairs, is very brief, but it comprehends all that can be desired in support of the claim of this application, as an ectrotic remedy. Dr. B. had witnessed the early experiments I had made on this subject, during pupilage in Montreal, and gladly availed himself of the unusual opportunity he had, when employed by the Colonial Government, to afford his professional aid to a tribe of Iriquois Indians at St. Regis, on the banks of the St. Lawrence.

He briefly states, "I have treated 300 cases of smallpox among the Iriquois Indians at St. Regis, during an epidemic in 1849. Of these 200 were very severe, either confluent or partially so, and to whom iodine was applied, as follows:—The whole face was painted, daily, from the earliest day that it could be done in *eighty-five cases* of confluent, or semi-confluent smallpox, out of which *only seven exhibited any marks and these were slight*. *Half the face* was painted in *seventy cases* of grave disease; of these, *sixty-one were free from any marks on the painted side*, five were badly pitted, and four slightly, on the painted side, while the *unpainted* side had numerous marks and pits, exhibiting a very striking and marked contrast. Fifty cases were painted at different periods, during the maturation of the pustules, upon which the tincture did not appear to have much influence. There were eight cases of variola modificata. Twelve of the cases terminated fatally, one of which was of an hæmorrhagic type.

"I need scarcely add, that I am fully convinced of the beneficial effects of tincture of iodine, not only as a powerful ectrotic remedy, but also as a very efficacious means of controlling the irritation and itching, and thereby not only relieving the suffering of the patient, but also removing the involuntary and irresistible disposition to scratch, and the consequent production of wheals and scars. I am also of opinion that it moderates the febrile action, and thereby the danger. I have used a small quantity of hydriodate of potass to aid in the solution of the iodine.

"*I freely confess that I conceive I would not be doing justice and my duty to my patient, if I omitted to apply this remedy on any future occasion. It should be commenced at the earliest day of the eruption, and continued daily for a week.*"

ART. 10.—*On the Ectrotic or Abortive Treatment of Smallpox.* By Dr. BENNETT, Professor of Medicine in the University of Edinburgh.

(*Edinburgh Monthly Journal*, April, 1854.)

“On two former occasions,” writes Dr. Bennett, “I have called attention to the remarkable results obtained by a mercurial plaster thickened with starch applied to the face in cases of smallpox. Several cases were also detailed, the number of which might easily have been augmented, showing not only that pitting was prevented in severe confluent natural cases of the disease, but that the pain, swelling, and suppuration of the face, the general fever and restlessness, and the violence of the disease, were all greatly diminished by the local treatment. Dr. George Paterson, of Tiverton, however, published a case* where excessive and dangerous salivation was in this way occasioned, the risk of which must seriously compromise the otherwise great advantages of the ectrotic treatment. But it may be asked whether, after all, the mercury is in any way necessary to the success of this treatment. Its original propounders in Paris may indeed have supposed that the absorbent powers of the drug was the true cause of its success, but it seems to me that another explanation may be offered. There is, for instance, a close analogy between the mode of healing of wounds and ulcers, so well described by Dr. Macartney, of Dublin—that is the so-called “modelling process”—and what takes place in the ectrotic treatment of smallpox. In the former, cicatrices are far less liable to be produced than after healing by the first or second intention, and in the latter the pitting or cicatrization is prevented. The artificial plaster therefore takes the place of the natural scab or clot of blood, protects the parts below, and enables them to heal slowly but more perfectly than if exposed to the air uncovered and uncompressed by superjacent crusts. If this be the correct theory of the ectrotic treatment, the mercurial might be discarded, and any kind of plaster which would concrete on the face might be expected to produce the same beneficial result. This session I determined to try the effects of such a plaster, and after two or three failures have succeeded in procuring one that answers perfectly. The first case I treated with simple lard, thickened with starch and powdered charcoal, but it was so little coherent, that the patient, during the night, rubbed it off on her pillow or with her hands, and on her recovery she was pitted all over. In another case I tried carbonate of magnesia saturated with oil. But this also failed. In a third case, however, common calamine (*zinci carbonas*), saturated with olive oil (proposed by Mr. Bird, one of the clinical clerks), formed a coherent, tough crust, which remained on the face, and was found to answer well. Three cases of natural smallpox have been since treated in this manner with the result, not only of preventing the pitting but of diminishing the local and general symptoms, exactly in the same manner as I have formerly detailed, as being the effect of the mercurial plaster. The following is one of these cases :—

* ‘Abstract,’ vol. xv, p. 536.

Alexander Ross, æt. 13, never been vaccinated, was seized with shivering on the 7th January, followed by the usual symptoms of fever. Entered the Infirmary on the 9th, when a few papules were observed on the face and arms. On the 12th the face was thickly covered with vesicles, which from their closeness, would certainly have become confluent. The mask of calamine and oil was now applied. The disease ran its usual course, the eruption being confluent on the arms and trunk. Throughout the progress of the case the application of calamine saturated with oil preserved a firm and coherent crust, and was renewed from time to time. The patient experienced no smarting of the face, there was no swelling of the eyelids, no purulent discharge, or local unpleasant symptoms of any kind. The secondary fever was tolerably smart, delirium being present two days. On the 22d the mask came off, leaving a clean smooth surface, free from all trace of pitting. Dismissed quite well on the 26th.

“The following formula, after numerous trials, has been found to constitute the most efficient plaster:—Carbonate of zinc, 3 parts; oxide of zinc, 1 part; rubbed in a mortar with olive oil to a proper consistence.”

ART. 11.—*Case in which it seemed probable that Scarlet Fever had been Inoculated.* By Dr. ROWLAND, Physician to Charing Cross Hospital.

(*Medical Times and Gazette*, Nov. 26, 1853.)

In Dr. Rowland's opinion,—there can be little hesitation in admitting that the scarlatina in this instance was produced by direct inoculation with the virus. The patient was of an age when the susceptibility to the disease by the ordinary mode of its communication is greatly diminished. The symptoms, too, commenced so immediately after the abrasion of the skin, that they may safely be attributed to that cause.

Several attempts have been made by different physicians to produce scarlet fever by inoculating, either with blood taken from patients undergoing the disease, or with matter from the miliary vesicles which sometimes form in the midst of the rash. By this means the complaint has sometimes been engendered, although the expectation of a milder form resulting from the experiment, has been invariably disappointed. The present case forms no exception to this rule.

The initiatory fever, marked by rigors and vomiting, set in about forty-eight hours after the insertion of the poison, being a period of latency unusually small, and the minimum probably of that noticed in the regular disease. The sore throat commenced on the following day. The non-appearance of the rash on the skin is too common a circumstance in this fever to require notice, but as some high authorities have occasionally refused to acknowledge such cases as true examples of the disease, the absence of efflorescence after inoculation in this patient may be worth alluding to. The anasarca appeared as early as the fourth day from the commencement of the fever. The swelling involved a large portion of the surface, and spread with great rapidity.

CASE.—*Nov. 1st, 1853.*—Louisa Preston, æt. 50, admitted this morning, states that on the 17th October, when nursing a child suffering from scarlet fever, she was scratched on the hand by the patient; the skin was slightly abraded, and a little blood escaped; the limb subsequently became much swollen, and suppuration ensued. On the 19th she was seized with vomiting and rigors, and, on the afternoon of the following day, sore throat commenced. On the 24th the legs began to swell, and the anasarca rapidly spread over the thighs and abdomen. The œdema still continues in these parts, and there is also puffiness under the eyelids, with distortion of the features. The urine is scanty, and loaded with albumen. No tube casts can be detected in it.

A powder of rhubarb and soda is ordered, and a saline mixture, with the tartar emetic.

Nov. 5th.—Urine increased in quantity; the albumen is diminishing; œdema much less. Continue the medicines.

9th.—The swelling is quite gone; the urine is free from albumen.

ART. 12.—*A Case of Glanders in the Human Subject successfully treated by Stimulants.* By Mr. W. J. Cox.

(*Lancet*, March 25, 1854.)

Mr. Cox relates this case in support of Dr. Mackenzie's views on the subject. ('Abstract,' vol. xviii, p. 27.)

CASE.—A man, æt. 47, a clogmaker, was attacked with severe salivation, swelling of the tongue and sublingual glands, accompanied with great prostration and restlessness. The treatment adopted by the author (gargles of alum, chloride of soda, &c.) proving of no avail, at the expiration of three days the patient was also seen by Dr. W. F. Mackenzie, who suspected the case to be glanders, from his previous experience of two somewhat similar instances. By this time a slight viscid, sanious discharge made its appearance from the nostril; and on examination, the Schneiderian membrane was seen to be strongly injected, and a scab was discernible, evidencing tendency to erosion. The watchfulness was most obstinate, and there was now delirium. The patient's articulation was so impeded that his speech was unintelligible. Dr. Mackenzie advised sesquicarbonate of ammonia in ten-grain doses at two-hour intervals, combined with five drops of laudanum and one drop of creosote. The author, finding a few hours afterwards, that the patient could not take the creosote, omitted it, and recommended wine in addition to the ammonia. The next day he was better, and had slept a little. Dr. Mackenzie then resigned the case to Mr. Cox's care. The dose of ammonia was decreased gradually in amount and frequency, and (the patient continuing very anæmic) combined with citrate of iron. He slowly recovered health and strength; but about twenty days after his first attack, he complained of pains in the limbs, and the glands of the axillæ and inguinal regions were enlarged. The history of the case was then elicited from the patient. About a week before applying to the author, he had, after breakfasting early, walked with a heavy load several miles, and, feeling fatigued, called at a livery stable to see a friend who was employed therein. Whilst there, he noticed a glandered horse, but did not approach it or any of the animals, being indeed separated from them, during his visit, by a distance of at least six feet (he was in a compartment of the premises above, and the horses below). He felt sickened and faint, and returned home. The next day he

felt soreness of the mouth and throat, and slight salivation, which went on increasing. He had taken no medicine of any kind for a long period, except two pills from a herbalist about ten days before. He was a teetotaller.

ART. 13.—*On the Indian Plague.* By Dr. M'WILLIAMS.

(*Lancet*, Dec. 13, 1853.)

Dr. Hirsch, of Dantzic, has lately published an interesting account of the Indian plague, and it is this account which is made the subject of a communication to the Epidemiological Society by Dr. M'Williams.

In his communication, the author commenced by stating that, in the whole history of epidemics, there are few epochs more interesting than that of the fourth decennium of our century; for then, within the compass of a few years, we find many of the most important diseases spread epidemically over the globe. These were preceded by agues, which prevailed at the close of the third decennium, and by the influenzas of 1831-33; cholera, which in 1823 had stopped short on reaching the frontier of Europe, overspread with the force of a torrent the Russian empire, and in 1831 entered Germany, where in the southern parts of the kingdom it was soon followed by typhoid fever and dysentery. At the same period "sweat fever" appeared in France and Italy, and for the first time "typhus cereбрalis" was propagated epidemically. In North America cholera, typhus, and yellow fever raged. Turkey, Western Egypt, and the greater part of North Africa, were ravaged by typhoid fever and oriental plague. And it was just at that period that a disease of a new and most malignant character broke out in the north-west part of Hindostan. Researches among the archives of the medical board, however, made it evident that the same disease had prevailed some years before in those regions, but the attention given to it subsided soon after the epidemic ceased. The author considers the disease in question to have been a very decided plague specifically modified; and that in order to distinguish it from the Oriental plague it may justly be denominated the Indian plague. The first historical report of the outbreak of the Indian plague dates from the year 1815, in the provinces of Kutch and Guzerat, which in the previous year had suffered from terrible famine. Neither the origin nor the cause of the epidemic could be distinctly traced. But there is no doubt that the disease already, in May, 1815, had spread over some parts of Kutch and the district of Wagoor, that it raged in the territories until the following year, and made great havoc among the inhabitants. At the same time the epidemic appeared in Katlywar, from whence it spread to Scinde, and in November it reached Hyderabad, where from sixty to seventy persons daily fell victims to the plague. The epidemic entered the north-eastern district of Guzerat in the beginning of 1817, and abated in the fall of the year. With the rainy season of 1819 it burst forth with new vigour, and overspreading the territory which had suffered during the previous year, reached the northern part of Guzerat, and in the east the Zillah of Ahmedabad. With the close of 1821 the epidemic everywhere disap-

peared, and but for the remark of Dr. Rankine, that the plague had been observed in 1823 in the mountainous territory of Kamoou, we have no information of its reappearance until 1836, when it broke out with great malignity in a country far removed from that above mentioned. It was then that the disease for the first time attracted general attention, and gave rise to scientific inquiries, and the adoption of sanitary measures. The Radjpootana States were the scene of the ravages of this epidemic; and as the first report of the disease came from Pali in the province of Marwar, it has obtained the name of the Pali Plague, although it is anything but certain that the epidemic originated in that place, for it also raged at the same time (July, 1836) in other districts of that province. After having traversed the greater part of Marwar, the disease passed the chain of hills separating the eastern borders of this province from Meiwat, overspread that country, and afterwards the district of Adjmer. Early in 1837 it again invaded Marwar, especially the town of Pali, and continued till the spring of the following year. From that time up to 1850 there is no further report of the prevalence of the malady. It was in this year that a fresh outburst occurred at Gurwhal and Kamoou in the Himalayan territory. Dr. Hirsch then gives a very graphic and minute description of the mode of invasion, and the general symptoms of the disease. The disease, although a bubonic plague, was distinguishable from the Oriental plague by an attendant pulmonary affection and hæmoptoe. The mortality was dreadful, the supposition that it was from seventy-five to eighty per cent. of those attacked being by no means exaggerated. In the town of Pali alone, in a population of 20,000 inhabitants, 4000 persons fell a sacrifice to the plague in the period of seven months. The disease did not appear to be contagious, nor was it at all influenced by season. In the concluding portion of the paper, which indicated much learning, labour, and deep research into the writings of ancient as well as modern authorities, the author adduced strong evidence as to the identity of the Indian plague with the Black Death of the fourteenth century, that terrible epidemic which fills one of the darkest pages in the history of mankind.

ART. 14.—*On the Comparative Mortality of Pestilence and War.*
By Dr. ROBERTSON.

(*Edinburgh Monthly Journal*, May, 1854.)

Some interesting tables have issued from the Health Office, comparing the loss of life by war and pestilence. It appears that in twenty-two years of war there were 19,796 killed, and 79,709 wounded, giving an annual average of 899 killed, and 3623 wounded. In 1848-49, there were no fewer than 72,180 persons killed by cholera and diarrhœa in England and Wales, and 144,360 attacked; 34,397 of the killed were able-bodied persons, capable of getting their own living! Besides these deaths from the great epidemic, 115,000 die annually, on an average, of preventible diseases; while 11,419 die by violence. Comparing the killed in nine great battles, including Waterloo—4740—with the number killed by cholera in London in 1848-49—14,139—

we find the difference of 9399 in favour of war. In cholera visitations, 12 per cent., sometimes 20 per cent. of the medical men employed died. The London missionaries die as fast as those in foreign countries, and there are some districts in London which make the Mission Society ask themselves whether they have a right to send men into them. From the returns of twelve Unions it is found that 3567 widows and orphans are chargeable to the cholera of 1848-49, entailing an expenditure of £121,000 in four years only.

(C.) CHRONIC DISEASES.

ART. 15.—*On certain Pathological States of the Blood, and of their Treatment.* By Dr. COPLAND, F.R.S.

(*Lancet*, Jan. 21, 1854.)

After describing various symptoms and signs of irritation of the blood, and noting more particularly the changes observed in the excretions, &c., Dr. Copland deduces a series of inferences as the bases upon which he founded his practice and treatment. He arranges the vitiations of the blood, under certain heads or categories, according to the causes, extrinsic or pathological, producing them with reference to the indications of treatment, and these comprehended the following seven orders:

1. Vitiation produced by imperfect assimilation or development of the blood-globules.

2. Vitiation occasioned by the increased action of the organs, which waste or decompose the hæmato-globulin—which increase the fibrine and augment the urea.

3. Contaminations arising from the absorption of purulent, sanious, or other morbid matters, into the circulation, or from the imbibition of any of these by the veins or cellular tissue.

4. Alterations sometimes supervening on the foregoing, or complicating the latter, such as fibrinous coagula or concretions, or inflammations of arteries, veins, or lymphatics, puriform infiltrations, or fomentations.

5. Vitiation occasioned by the imperfect performance, or by the interruption or suppression of a depurating function.

6. Contamination produced by morbid miasms, or by specific seminia, as in malignant, pestilential, and septic maladies.

7. The inoculation of poisonous secretions or fluids, as the fluids from erysipelatous inflammations, from asthenic or diffusive inflammation, from bodies recently dead from malignant diseases, or from putrid animal matters.

The treatment appropriate to each of these orders or categories of blood vitiation might be differently estimated by different observers; the author professing, however, to give only the results of his own observation and experience. His practice had been based upon a close observation, and upon rational inferences from such observation. The treatment adopted by the author in these various conditions was then

detailed, illustrated here and there by some every instructive cases. The author dwelt at some length on the treatment of that morbid state of the blood which occurred in acute rheumatism, and which is characterised by the redundancy of the fibrinous and ureal constituents of the blood. What medicines would counteract the disposition to fibrinous attractions in the blood, or such as might exist? Calomel, and calomel and opium, diaphoretics, emetics, purgatives, were doubtless excellent initiatory means to diminish excrementitious plethora; but to promote the depuratory functions he had found the greatest advantage from magnesia and its citrate, the carbonates and citrates of the fixed alkalies, the biborates of soda and potass, the nitrate and chlorate of potass, sublimed and precipitated sulphur, &c., &c., as well as the various preparations of cinchona and turpentine. For the treatment of the sixth category, the advantages derived from large doses of turpentine were detailed; and the author concluded by expressing his hopes that he should be excused for having made so frequent reference to his own writings, where many of the matters comprised in this extensive subject were more fully discussed; but he had his own originality in some topics to vindicate, as several authors who had recently written, had considered that opinions and ideas were fair objects of plunder, if they could be conveyed away without reference to their originators, and in a different array of words.

ART. 16.—*Cases of Leucocythemia.* By Dr. QUAIN, Assistant-Physician to the Consumptive Hospital at Brompton.

(*Transactions of the Pathological Society*, vol. iv, 1853.)

The first of these cases was exhibited by Dr. Quain at the Pathological Society, and his blood was there shown to have the characteristic appearances—numerous globules considerably larger than blood-globules, with several granules or nucleoli scattered throughout the field of view, between the *roleaux* of red globules. The second case was simply related at the same time.

CASE 1.—J. D., æt. 37, a butler in a gentleman's family, extremely regular in his habits, having always lived in a healthy situation, and never had ague: indeed, with the exception of an attack of scarlet fever, when in his twenty-first year, he had never been unwell. His family in general has been healthy. About twelve months before he came under notice he had begun to cough—to suffer from shortness of breathing—and to be less equal to his work than previously. Within the last two or three months these symptoms have become aggravated. He observed, about the same time, his abdomen increasing in size, and his legs swelling; and subsequently small tumors formed in the axilla, at the root of the neck, and in the groin. He had never had hæmoptysis, or loss of blood in any form. He presented himself at the Brompton Hospital at the end of last month, supposing that he was suffering from phthisis. Dr. Quain then obtained from him the detail of the preceding facts, and found that the

symptoms of which he had complained were becoming daily aggravated. He looked pale, and rather sallow. He had not lost much flesh; he suffered much from the shortness of breathing, and debility; he could lie in any position, and had no difficulty in swallowing. The abdomen was found enlarged by the presence of a certain amount of fluid in the peritoneum, by a large solid tumor in the situation of the spleen, and by some addition to the size of the liver. The legs were œdematous. The heart's action was excited, and accompanied by a loud, though soft murmur, accompanying the first sound, and audible at the base. There was no disease of the lungs, save bronchitis. In the axilla, the groin, and at the base of the neck, were a number of small nodules of a reddish hue, raised above the skin, and evidently formed by enlargement of the lymphatic glands. He voided about two pints of urine daily, which presented a dirty, turbid aspect, and was loaded with lithates, but was free from albumen. His fæces were dark coloured. Some alkaline diuretics were prescribed, in combination with juniper. Under this treatment the urine has become clear and more abundant; the œdema of the feet and legs is less; but in other respects he continues much as before.

A few days subsequently to the date of this report, the patient began to complain of increased debility and difficulty of breathing. The swelling of the legs became distressing, and the œdema, extending to the scrotum and penis, caused him much inconvenience. The distress was somewhat diminished by punctures made in these parts, and by spontaneous superficial openings which formed in the legs. From both an abundant watery discharge proceeded. His debility, however, increased, and he died exhausted on the 8th of December.

The *post-mortem examination* was made after an unavoidable delay of forty-eight hours; decomposition (the weather being mild) had progressed rather rapidly. There was considerable œdema of the lower section of the body, and livid discoloration of the back part. The upper extremities and chest were pale and thin; lymphatic glands, some as large as half a walnut, were seen in the groins and axilla. There existed scarcely any rigidity. The head was not examined. On opening the chest the lungs collapsed but little. Each pleural cavity contained about eight ounces of dirty-brownish serosity. There were pretty extensive adhesions of both pleura, chiefly posteriorly, and of the left lung to the greater extent. Puckerings existed at the summits of both lungs. Much frothy bloody fluid escaped from each on section. The pericardium contained about four ounces of fluid, similar to that found in the pleura. The heart itself appeared as a pale, soft, flabby mass. Its cavities were quite empty; very little blood could be obtained from any of the larger vessels. The valves of the heart were tolerably healthy. The muscular fibres had, under the microscope, a confused, granular aspect. They were probably in a state of fatty degeneration, but the decomposition which had taken place renders this point doubtful. The blood presented appearances similar to those described as having been present during life.

In the peritoneal cavity there were about twenty ounces of dirty-yellowish serum. The *liver*, which was found to weigh six pounds, was paler than natural, but felt firm and solid. The increase in size seemed (when investigated by the microscope) to be due to hypertrophy of all the elements of which the organ is composed, rather than to a special increase in one. The gall-bladder contained about three drachms of thin, dark-coloured bile.

The *stomach* and *intestines* were much distended by flatus, but otherwise presented nothing abnormal.

The *spleen* measured 13 inches in length by 11 in width, and weighed five pounds. It felt exceedingly solid and firm, and was of a dark red colour.

The microscopic examination, which was not made till further decomposition had taken place, was not, therefore, satisfactory; abundance of cells, similar to the white cells of the blood, caudate fibres, and cells aggregated as if in capsules, were observed.

The *kidneys* were large, soft, and rather rough on removing the capsules.

The *mesenteric glands* were enlarged, as were the lumbar lymphatic glands. On removing one of each class of glands, they communicated to the touch a soft, elastic feel, as of a cyst filled with fluid. On section this was found to depend on the presence of an abundance of fluid of a creamy consistence, and a beautiful pink colour, the latter more marked in the lymphatic gland, infiltrated through the meshes of the glandular texture. The fluid was seen under the microscope to contain an immense number of cells; these cells, which were nearly all spherical, varied infinitely in size; the majority being about the size of the white globules of the blood: a few were larger, and many smaller; all contained nucleoli and granules. There was no very apparent difference between the contents of the mesenteric and lymphatic glands.

CASE 2.—E. F., æt. 43, a female, the wife of a publican, having borne eleven children, presented herself at the hospital on the 16th of September. She had lived for many years in a healthy situation, was temperate, and enjoyed good health, save that when, being eighteen years of age, living in Bedfordshire, "on a sandy, dry soil," she had an attack of ague. She had never suffered from loss of blood, and was very well until the preceding March, when she suffered from pain and swelling in the abdomen, which in a week laid her up, and she has never since been well. Her menstrual functions ceased, and she lost her flesh and strength. The spleen was found to be much enlarged; and the blood, examined by the microscope, showed that all the red globules were more or less altered in structure, presenting an irregular granular character. The contrast was very remarkable when a drop of healthy blood was placed on the glass at the same time. This patient was seen but once. It was ascertained that she died soon after this visit in a state of extreme exhaustion.

ART. 17.—*On the Blood and Effused Fluids in Gout, Rheumatism, and Bright's Disease.* By Dr. GARROD, Professor of Materia Medica in University College.

(*Lancet*, March 25, 1854.)

In 1838, Dr. Garrod read a paper before the Royal Medical and Chirurgical Society, the leading object of which was to show the presence of uric acid in the blood—in minute quantities in healthy blood, and in great augmentation in certain pathological states of that fluid; and to explain the methods which he employed for detecting the presence and determining the quantity of the uric acid. The present paper (which was also read before the same society) is supplementary to the former, and its principal object is to describe a process for the detection of uric acid in the blood, more readily employed in clinical medicine than the former process, and capable of being performed by any medical practitioner. To this process the author applied the term, "the Uric Acid Thread Experiment." It should be conducted as

follows:—One or two fluid drachms of serum of recently drawn blood should be placed in a flattened glass dish; to this is added strong acetic acid, in the proportion of about six minims to each drachm of the serum. When the fluids have been well mixed, a very fine thread is introduced, consisting of from one to three ultimate fibres from a piece of unwashed huckaback, or other linen fabric; this should be depressed into the fluid, and the glass put aside in a moderately warm place until the serum is quite set and almost dry. Should uric acid be present in the serum in quantities above a certain amount, it will be chrystallised on the thread, and readily detected by the microscope, in the shape of rhomboidal crystals of uric acid. The author alluded to some precautions which were necessary to ensure success. He then adverted to the delicacy of this test for uric acid, and gave a table exhibiting the proportion of uric acid in 1000 parts, which this test was capable of detecting, by which it appeared that the experiment failed to demonstrate a quantity of uric acid less than 0.025 grains in 1000 grains of serum. The author pointed out the great practical value of this absence of extreme delicacy in the test, as any quantity above that just enumerated constituted a morbid proportion, so that whenever the thread experiment demonstrated the presence of uric acid, we possessed evidence of an abnormal quantity of that produced in the blood. By this method of analysis he had succeeded in proving the presence of uric acid in certain morbid effusions, the abdominal fluid and pericardial effusion in cases of granular kidney, and he had also succeeded in discovering the presence of uric acid in fluids artificially effused by blistering agents. This was a point of much importance, particularly in relation to diagnosis. It often happened that, from the state of the patient or other causes, the abstraction of blood for the purpose of analysis was undesirable; but by the application of a blister the effused serum afforded the means of determining, with remarkable accuracy, the presence or absence of uric acid in the blood. An examination of the serum obtained from a variety of blisters in different cases, demonstrated the singular fact that the presence of local inflammation in a part had the power of preventing the appearance of uric acid in the effused serum.

ART. 18.—*On the Excretions as Guides to the Administration of Remedies in Rheumatism and Rheumatic Gout.* By Dr. FULLER, Assistant-Physician at St. George's Hospital.

In this paper, Dr. Fuller states that no great advance can take place in our knowledge of disease, nor any material improvement in its treatment, unless we endeavour to discover the primary cause of each morbid action, and trace its influence in modifying and deranging the various functions of life. After briefly illustrating this important truth, he proceeded to point out how close a relationship the amount and character of the various excretions must necessarily bear to the

condition of the general system, and how certain an index they afford to the energy of those processes by which the effete materials of the body are got rid of. Hence he deduced the inference, that no plan of treatment can be proposed, with a well-founded rational prospect of success, which is not based on a due regard to the different excretions, and varied with their varying condition. He then proceeds to apply this general law to the elucidation of the treatment of rheumatism and rheumatic gout, and shows that, inasmuch as these disorders depend on the presence of a morbid matter, the product of imperfect or faulty assimilation, a proper action of the excretory organs is more than usually necessary. The alterations usually produced on the character of the excretions by the existence of rheumatism and rheumatic gout, are next alluded to, and some remarkable exceptions pointed out; and the author states his opinion that the chief aim of treatment should be, by producing, as far as possible, an increase of those excretions which are scanty or deficient, to make each and all of the excretory organs assist in eliminating the *materies morbi*, and to endeavour, by close attention to the character of the excretions, to correct their morbid condition. He then refers to the good effects resulting from treatment regulated according to these views, and mentions many facts to prove and illustrate the ill success which attends every mode of treatment in which the condition of the excretory organs is not attended to. Having fully established these general principles, his next endeavour is to point out the means by which they can best be carried out. He first premises that if all the excretions are scanty or suppressed, and if at the same time the pulse be full and bounding, venesection will not only relieve the general tension of the system, and alleviate the pain and general distress, but will be followed by action of the excretory organs. He then proceeds to discuss each of the excretions separately, and in regard to the perspiration, stated his conviction that much mischief is often done by interfering with Nature's mode of operation. No bath should be administered as long as perspiration takes place naturally, but if the skin is dry or acting sluggishly, a bath is essential to stimulate its action. He strongly recommended a water bath of 100° Fahr., rendered alkaline by potash or soda, but in the event of its being impracticable to make use of a water bath, the vapour or hot-air bath may be substituted. In either case the effects of the bath should be sustained by guaiacum and Dover's powder, or tartarised antimony and saline diaphoretic medicines. The only exceptions to this general rule are met with in persons of a weakly constitution, or towards the close of lingering cases. In such instances the perspiration is sometimes very profuse, but loses its distinctive empyreumatic odour, and much of its peculiar acid character, and is accompanied by a soddened state of skin, a quick, feeble, irritable pulse, and not unfrequently by an eruption of sudamina. Tonics, such as quina and sulphuric acid, are then requisite, instead of diaphoretics and salines, and as soon as all feverishness has subsided, the cautious administration of iron is almost always beneficial. The urine is next appealed to, and made to furnish its quota of evidence. Dr. Fuller insists strongly on the fact that the mere appearance of the urine, its colour,

clearness, or turbidity, affords no clue to its real condition—to the amount and character of its solid ingredients, which can only be ascertained by careful examination. This he proved by reference to facts, and then went on to show that the amount of solid matter excreted by the kidneys is usually much diminished, and that diuretics are necessary to increase their action. A most important question is, as to what diuretics should be employed. A state of congestion and irritation exists consequent on the abnormal condition of the blood, and the exhibition of ordinary diuretic medicines, which operate merely as renal stimulants, is more likely to increase that congestion, than to cause an abundant flow of urine. Hence cantharides, squills, nitric ether, scoparium, and other similar remedies are of little or no service, whilst alkalies and the neutral salts, such as the acetate of potash and the potassio-tartrate of soda, which correct the condition of the blood, are most active in promoting diuresis. So also are the preparations of colchicum. Water too proves of service, by promoting the absorption of the salts, and assisting not only in the excretion of the solid matters, but in their subsequent solution. The condition of the urine, as to specific gravity, turbidity, and acidity, was shown to be the best practical test as to the dose in which alkalies should be administered, the frequency of their repetition, and the propriety of persevering in their use. The alvine evacuations are next referred to, the necessity for strict attention to their character is pointed out, and the peculiar conditions which call for the administration of different remedies are clearly indicated. Dr. Fuller insists upon the powerful cholagogue influence of aloes and the acetous extract of colchicum in these cases, and urges the administration of these remedies, in conjunction with blue pill or calomel, whenever it appears desirable to excite an increased flow of bile. The principles of treatment already laid down are next applied to chronic rheumatism, and subsequently to rheumatic gout, and it is shown that in the latter form of disease the treatment requisite to produce the desired effects need considerable modification according to the stage of the disorder, and the constitution of the patient. A disregard of this fact, together with the practice, too prevalent in the present day, of prescribing each medicine separately, constitute, in Dr. Fuller's opinion, the chief cause of the frequent failure of the treatment ordinarily employed in rheumatism and rheumatic gout, and form additional grounds for a close examination of the excreta, inasmuch as such an examination proves that no two cases are alike, but necessarily require remedies differing widely in their character, no less than in the dose in which, and the period of the attack at which they should be administered.

ART 19.—*On the Principles which should Regulate the Use of Iodide of Potassium in the Treatment of Chronic Rheumatism.* By Dr. BASHAM, Physician to the Westminster Hospital.

(*Lancet*, Nov. 19 and 26, 1853.)

In the following remarks, Dr. Basham enunciates a rule of great practical value,—viz., *that iodide of potassium is only useful in those cases of rheumatism in which the patient has at some former time been mercurialised.* This rule is the sole result of clinical observation and experience; but it derives collateral support from the recent researches of M. Melsen, (v. 'Abstract,' viii, 249), which show that the action of the iodide under these circumstances is that of a chemical solvent, which dissolves the mercury out of the tissues and forms a soluble compound, which finds its way out of the system through the kidneys.

"From time to time," says Dr. Basham, "cases have come under observation, presenting the usual symptoms of chronic rheumatic pains, gnawing and erratic, with paroxysms aggravated by atmospheric changes; and there has been diffuse tenderness of the periosteal surfaces nearest in contiguity to the skin, as the scalp, clavicles, ulna, tibia, &c.; sometimes distinct tumefaction with exquisite tenderness, and these nodal elevations in some have been evanescent, in others persistent during the whole course of the malady. It has frequently been noticed, and practitioners of experience cannot have overlooked the fact, that some of these cases materially and rapidly improve under the administration of iodide of potassium, while in others, with symptoms in all respects identical, no benefit has been derived or improvement become apparent till the patient has been put through a course of bichloride of mercury and sarsaparilla.

"I was once inclined to think that these varying results depended on peculiarity of constitution, and that the treatment of such cases by one or other of these remedies, must remain, to a certain extent, empirical, and destitute of any settled principle. But a careful examination of all the precedent conditions in the histories of such cases exhibited the following facts:—That in all the cases in which the iodide had been productive of benefit, the patient at some antecedent period had been salivated, in some for syphilis, in others for an inflammatory or other disease; while in those cases in which no benefit was obtained by the iodide, the patient had either never taken mercury to salivation, or had suffered from syphilis or gonorrhœa, which had been either neglected or treated only locally. It appeared then, that there were two predisposing causes to the same form of chronic periosteal rheumatism—the impregnation of the system by mercury, and the lurking and subtle influence of the syphilitic virus.

"In my clinical lectures for some years past, I have directed the attention of students to these facts, and impressed on them that the treatment of these cases of chronic periosteal rheumatism should be based on these principles: the first form of the disease requiring the iodide of potassium; the second form, the agency of alterative doses of some mild preparation of mercury. The following cases illustrate these views:—

CASE 1.—Lydia E—, æt. 20, was admitted on the 5th October, 1839, suffering from rheumatic pains in the arms and legs, of nearly two months' duration. There is tumefaction of the periosteum above the olecranon of the left arm, another immediately below the tubercle of the tibia, and a third a little below the tibia—all highly painful and sensitive to pressure; the general health is much deranged; the countenance is anxious, and there is some emaciation; there is a diffuse eruption of urticaria on the inner part of the thighs, very troublesome at night, the itching of which, with the pains in the limbs, has deprived her of rest for some weeks past. She denies that she has ever had any venereal disorder, although she confesses to have led, for the last two years, a dissolute life. A cicatrix exists in the left inguinal. She states that a year since she had a swollen knee, which confined her to her room for some weeks, and which from her description appears to have been an attack of acute rheumatic arthritis. Heart sounds natural; no pulmonary disorder. She was at first placed on mercurial alteratives—grey powder and Dover's powder, with aperient salines; and on the fourth day from admission, the state of the excretions being improved, she was ordered sarsaparilla, and the liquor of bichloride of mercury in drachm doses. The node on the olecranon was so painful, with some increase of temperature at the spot, that a few leeches were applied, with considerable relief to this local condition. The tibial nodosities were relieved temporarily by saline fomentations with the spongio-piline.

On the seventh day from admission, although the periosteal inflammation had everywhere subsided, yet her suffering at night from the gnawing, erratic pains in the limbs continued very distressing.

About the fourteenth day, visible signs of improvement manifested themselves; the local swellings had totally disappeared, and the parts could be touched without pain. The rheumatic nocturnal accessions of pain also became less, and she slept comfortably, and her general appearance indicated approaching convalescence. On the twenty-first day from admission, she was free from all former symptoms, and on the twenty-fifth she was discharged convalescent. No symptoms of ptyalism exhibited themselves.

CASE 2.—William C—, æt. 49, a footman, was admitted October 3d, 1849, suffering from severe rheumatic pains in all his limbs, of near eight months' duration, increasing slowly in intensity to the present time. The general aspect of the patient is unhealthy; there is no emaciation. The functions of excretion appear pretty regular; tongue not unnatural; pulse moderate in force and frequency; there is anorexia; no thirst; considerable bodily debility and exhaustion; the heart sounds natural, somewhat feeble; no pulmonary disorder; the surface of the skin is everywhere natural; but on both tibia there are periosteal enlargements and irregularities, causing extreme pain on pressure; the fauces are quite free from any vestige of ulceration. He states he never had a sore throat in his life, and most earnestly declares that he never had any venereal disease; that he married early in life, and has always been a steady man; but that about this time last year, he suffered an attack of pleurisy and inflammation of the liver, for which he was salivated, and was thirty-six days under the influence of mercury, for several days excreting pints of saliva.

For the first two days he took some saline medicine with opiates at night; on the third day he commenced the iodide of potassium in ten-grain doses four times a day. A few leeches were applied to the right shin, and relieved the acute suffering of which he complained as becoming aggravated at night, and more particularly on attempting to walk or even place the foot on the ground. On the fifth day the ward-book states that the local pains in the

tibia had been relieved, and that the patient slept better, but that the tongue was coated and bowels sluggish; the pulse 72, small and weak. On the seventh day the report states the nodosities to have disappeared, and that he bore the pressure of the finger without pain. The urine has been daily examined, and iodine detected in it. On the tenth day the general appearance of the patient had much improved; he complained of pain only in the ankles and shoulders; slept well; appetite natural. Between this day and the twentieth, a relapse of general rheumatic pains in all his limbs, with a sleepless night or two, occurred, but this passed away, and on the twenty-first he is reported as nearly convalescent, his only complaint being debility. The iodide was discontinued, and he took quinine with much advantage, and was discharged convalescent on the twenty-eighth day.

“These cases have been selected out of thirty-one patients of chronic rheumatism, eight of whom had suffered syphilis, but had never taken mercury or been salivated, eighteen had been salivated for venereal or other diseases; and five had suffered neither syphilis nor salivation, but presented strong, marked characteristics of the scrofulous diathesis. In the first class no benefit was apparent while the iodide was administered, but a rapid improvement became visible under small alterative doses of the bichloride of mercury. In the second class, which exhibited a previous impregnation of the system with mercury, the remedial influence of the iodide was in almost every instance well marked. In one or two of the third class, the effects were doubtful, and the greatest benefit was derived from chalybeates and cod-liver oil. The cases that have been selected for illustration, it is admitted, present the treatment in the most favorable light: in other of the cases similar results were obtained after a more protracted course of treatment; and some were complicated with disease of other organs; one or two with lung disease, which, while the relief obtained for the rheumatic disorder was sufficiently apparent, would not so forcibly illustrate the treatment as the cases just recorded.”

ART. 20.—*On the Local Application of Spirits of Wine in Acute Gout*
By Dr. GOOLDEN, Physician to St. Thomas's Hospital.

(*Medical Times and Gazette*, Nov. 12, 1853.)

The extreme pain attending acute gouty inflammation may, it appears, be very quickly relieved by the application of pure spirits of wine. The reporter of the '*Medical Times and Gazette*' states that he witnessed a trial of this remedy by Dr. Goolden on a patient in St. Thomas's Hospital, who was suffering at the time from agonising pain in the foot, and that the relief was almost immediate. He further states that Dr. Goolden is in the habit of using this remedy frequently in private practice, and always with the most pleasing results. The *modus operandi* is supposed to be by absorption, and not by mere evaporation. The mode of application is by a piece of lint saturated in spirit, laid over the part, and then covered with oil silk.

ART. 21.—*Co-existence of Cancer and Miliary Tubercles* (?).

By Dr. BRISTOWE.

(Transactions of the Pathological Society, vol. iv. 1853.)

The specimens which form the subject of the following remarks, were exhibited before the Pathological Society. They are of much interest, and their interest is greatly enhanced by the report appended to them, which was drawn up, at the request of the society, by Drs. Jenner and Brinton.

The specimens exhibited were taken from the body of William Roe, ■ mason, æt. 48, who was admitted into St. Thomas's Hospital, under Dr. Barker's care, and died about a week afterwards, with symptoms resembling those of phthisis. There were a few old adhesions in the left pleura. The surface of the left lung was studded with moderately firm, greyish-white, slightly translucent granules, about as large as a small pin's head. Each was surrounded by a patch of blackened solidified lung structure. On section the lung was found to present a large number of these bodies, more or less clustered, and forming hard projecting masses of various size. They were grey, tough, yielded no sort of fluid on pressure, and presented to the eye all the characters of grey miliary tubercle. No other disease existed in this lung. The right pleura was extensively and firmly adherent, and presented two small abscesses communicating with cavities in the base of the lung. The upper and middle lobes of the right lung contained numerous bodies like those observed in the left lung. In addition to this, however, in the middle lobe there was found extending from the root, some little distance into the lobe, a mass of cancerous deposit which appeared to have been developed around its larger bronchial tubes and vessels. The lowest lobe was very extensively diseased. The malignant growth was in considerable and irregular masses, through which the vessels and ducts passed without being obliterated. In some places the walls of the ducts were so involved in the disease that the mucous membrane only remained; but in many they were ulcerated and destroyed so as to give the lung, on section, the appearance of being riddled with cavities. These deposits had all the characters of soft cancer—they yielded a cream-like juice, had a greyish-white colour, with a slight degree of translucency; were mottled in places with opaque yellow spots and streaks, and presented occasional but not marked vascularity. In the walls of the cavities the opaque material was in excess, so that it assumed somewhat of the appearance of tubercle. In several places the disease was but slightly advanced; the lung structure, though infiltrated with it, being still easily distinguishable. The bronchial glands were also affected with cancer.

An irregular mass of encephaloid cancer occupied the left lobe, and another the lobulus Spigelii of the liver; the former as large as an orange, the latter half that size; both were formed by the confluence of several tumors.

The stomach and small intestines were healthy. The ilio-cæcal valve was partially destroyed by an ulcer as large as half-a-crown; it was irregular in shape, with sinuous, somewhat tumid margins; its surface was irregularly hollowed out; there was little or no thickening about it, and no fungoid granulations or growths. It had much the character of a tubercular ulcer, but there was no tubercle deposited in its neighbourhood. The large intestine presented numerous superficial ulcers, but they were all seated on the prominent parts, and had the appearance of being excoriations.

A small ulcerated opening existed at the posterior part of the left voca

chord; it communicated with a small abscess, into which projected the anterior angle of the arytenoid cartilage, ossified and necrosed.

There was undoubted cancer in the above case, both in the liver and in the lungs; even the cavities in the latter, though at first sight resembling tubercular cavities, were unquestionably cancerous. The question to be decided is: "Were the grey granular bodies, which were found in the left, and in a great portion of the right lung, really what they appeared to be, viz., miliary tubercles, or were they malignant growths, simulating that form of tubercular deposit?" The naked-eye appearances (in which I am disposed to put more faith than in the microscopic) were, I conceive, altogether in favour of the deposit being tubercular. And I think the microscopic characters were not against but rather in favour of this view. The cancer in the liver was almost wholly formed of small oval nuclei, about as large as blood-corpuscles; there were a few nuclei twice this size, and a few granule-cells; when the nuclei were separate, a little flocculent matter was seen adhering to them, but no trace of cell-wall. The cancer in the lung consisted almost entirely of nuclei, rather larger, however, than those in the liver; and in those parts where the disease was comparatively little advanced, the fibrous material of the lung tissue was distinctly visible, but infiltrated and crowded with densely aggregated nuclei. It was somewhat different with the miliary tubercles. It seemed as if the deposit, whatever it was (at least in the earliest stage), was seated in the air-cells, and not infiltrating the tissues. The deposit contained numerous nuclei, and these nuclei were about the size and shape of those in the liver, but then they as much resembled those in the non-cancerous cells of the bronchial mucus. Again, they were by no means so closely aggregated, but were separated from one another by a considerable amount of granular matter and fibrils; indeed it seemed to me that the deposit consisted in an accumulation of closely packed and disintegrating cells in the air-cells. In short, it resembled the cancer of the liver in the character of its nuclei, but in that respect equally resembled the bronchial mucus. It differed from the cancer in not infiltrating the tissues, and in the fact of the nuclei only forming a comparatively small portion of its bulk; and lastly, so far as my experience goes, it presented no microscopic character, no amount of organisation incompatible with tubercular deposit. I may add that, though I believe the ulcer on the ilio-cæcal valve not to have been malignant, its nature may admit of some doubt. The affection of the larynx, however, much more resembled scrofulous disease than that of the intestine did malignant disease.

Report.—The liver was evidently cancerous, and in the pultaceous purulent-looking matter which occupied the cavities of the lower lobes of the lungs, the small and numerous cancer cells were only complicated by the admixture of pus corpuscles, and other products of inflammation, in sparing quantity.

The bulk of the upper masses, which looked so like miliary tubercles, consisted of small cells, precisely identical with those of the lower cavities. As far as could be ascertained, they differed only in being unaccompanied by pus or exudation corpuscles, and in being still bounded by the proper pulmonary texture. It is true that, here and there, this appeared disorganised, and was mixed with minute refracting granules and amorphous substance—appearances somewhat resembling those met with in tubercle. But the date at which the examination was made, and the somewhat putrid state of the specimen resulting therefrom, will not permit much stress to be laid upon such an admixture; while, since these masses not only contained a large quantity of cell growth, but of cells which could be recognised as similar to those of the evidently cancerous portions of lung, there do not seem to be sufficient grounds for considering them tubercle.

With reference to the incompatibility of cancer and tubercle, we would advert briefly to the facts and opinions of some of the most recent observers. Dr. Walshe, in his work 'On Cancer,' published in 1846,^s remarks that he had collected the histories of seven trustworthy narratives of cases in which cancer and tubercle were found after death in the same subject. Dr. Bennet, in 1849, wrote:—"Instances are common where individuals have tubercles in youth, and cancer in adult age; but," he continues, "I have not seen or heard of a well-authenticated case where recent tubercle and cancer were associated."

Lebert, in his 'Treatise on Cancer,' published in 1851, says that in the examination of 173 subjects, some of the organs of which were the seat of cancer, he found recent tubercles in 15. The second part of Virchow's 'Archives' for the present year contains a paper by the same observer on colloid cancer, in which he gives the details of 11 cases of that disease. The second case is that of a man in whose body colloid cancer of the pylorus and tubercles in the lungs were conjoined. The conclusion at which Lebert arrives is, that individuals affected with cancer are as liable to become tuberculous as those of the same age who are free from cancer. But in regard of the supervention of cancer in the progress of phthisis, he believes it to be very rare, as no example of it has yet fallen under his observation.

Rokitansky thinks that it is, on the whole, more usual for cancer to follow tubercle than the reverse. He seems to doubt whether the two have any real relation to each other beyond that of coincidence. And he expressly mentions suppurating cancer as being sometimes accompanied by a whitish glutinous tubercle, which he regards as the tuberculous disease of the already cancerous fibrine.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A.) CONCERNING THE NERVOUS SYSTEM.

ART. 22.—*On the Influence of Opium as a means of Preventing and Removing some of the Injurious Consequences of Over-work and Anxiety.* By Dr. JOHNSON, Assistant-Physician to King's College Hospital.

(Pamphlet, Tyler, 1853.)

The following interesting and practical remarks are from the course of lectures on materia medica and therapeutics, delivered before the College of Physicians in 1853. Dr. Johnson proceeds:—

When all that is possible has been done for avoiding the causes of mental worry, and when all needful advice and encouragement have been given, we have next to direct our attention to the consequences, some of which will often continue long after their exciting cause has ceased to operate; while others are perpetuated by some persistent and unavoidable source of anxiety. Now, the first and the most frequent consequence of over-work or anxiety—the one, too, which, more than any other, is productive of further mischief—is restlessness, or some form of disturbed and unrefreshing sleep. And the chief cure for this, after the causes have been as much as possible avoided, is an opiate at bedtime. So far as I can see, it is of little importance what preparation of opium or of morphia is used. For hospital patients I generally order the compound soap-pill; one advantage of which is, that its name does not

indicate its opiate nature. The dose must vary according to circumstances. In ordinary cases, five grains of the pill, that is, one grain of opium, may be taken every night at bedtime. In a case of much excitement, with extreme restlessness or a threatening of delirium, the dose must be double or treble that which I have mentioned. In such cases, however, the opium would be best given in a liquid state,—in the form of tincture, or the solution of the muriate or acetate of morphia.

The time for the continued exhibition of the opiate must vary according to circumstances, and will be much influenced by the success of the treatment. The object is to break the habit of dreaming restlessness, and to procure sound and refreshing sleep. In many cases this object may be attained by the nightly repetition of the dose for one week. It is seldom necessary or desirable to continue the medicine for more than a month, though in some cases it may be expedient and beneficial to extend the period considerably. In many cases I have found that the beneficial effects of the medicine have been immediate; the patient has slept soundly, the distressing dreams have ceased, the appetite has returned, and all the symptoms which depended on loss of sleep and loss of appetite have quickly disappeared. After a few nights of sound sleep have been procured by the opiate, the dose should be discontinued, and in most cases the patient will continue to sleep as well without the medicine as with it. There is, probably, no one medicine which has the power of quickly removing such a multitude and a variety of distressing symptoms as opium, when its action is really favorable, in the cases to which I refer. It is not, however, to any specific efficacy residing in the opium, but to the marvellous influence of sleep in refreshing both body and mind, that the benefit is really due. The value of the opiate consists in the fact, that, on the whole, it is the safest and most certain means of procuring sound sleep.

The use of opium as a medicine is sometimes attended with unpleasant consequences, and it does not always effect what is desired. I proceed now to indicate some of the unfavorable results of the opiate treatment, and the precautions which ought to be observed in the use of the medicine. One of the most frequent discomforts attending the use of opium is a feeling of nausea and faintness, either with or without headache, in the morning after awaking. The best cure for this is a cup of coffee or tea, with some solid food, followed by a walk in the open air. In many cases the opium, although at first it may disagree, yet produces no unpleasant effect after the second or third dose.

The nervous patients who require the method of treatment which I am advocating, almost invariably suffer from constipation,—a torpid condition of the bowels being, in fact, one of the natural consequences of the general debility which characterises the patients in question. Although the immediate effect of the opium is to increase the constipation, yet its ultimate tendency is to restore the regular action of the bowels, by means of the invigorating influence derivable from sound refreshing sleep, and an increased appetite for food. The temporary constipation may readily be obviated by an occasional mild aperient—a seidlitz powder, or a compound rhubarb or colocynth pill. The inconvenience arising from the astringent effect of opium upon the bowels is so easily met and removed, that it would never deter me from giving the medicine in any case which appeared to require it.

One of the most serious objections to the use of opium, is its tendency, in some cases, to produce an effect the direct opposite of that which we require,—to produce wakefulness and excitement, instead of sleep and composure. It is only in a small proportion of cases that this difficulty arises. It may

sometimes be overcome by changing the form of the medicine, or by increasing the dose of the opium or morphia, and, in other cases, by combining the opiate with a moderate dose of antimony—James's powder, or tartar emetic—a combination which has been strongly recommended by Dr. Graves to procure sleep and check delirium in some cases of fever. It must, however, be admitted, that some patients cannot tolerate opium in any form or in any dose; and nothing can better show the value of this drug than the difficulty of finding a substitute for it. We may try henbane and hop, and these will sometimes effect our object; but their action is very uncertain in comparison with that of opium.*

It is well to remember that an opiate enema will sometimes procure refreshing sleep, when opium, in any form, administered by the mouth, is either quite inoperative or productive only of distressing excitement or sickness.

But may not the frequent repetition of an opiate dose become a necessity for the patient? May we not be instrumental in making him an opium-eater? I admit that the danger of such an evil, if real, would be a very fearful one. There are few results of medical practice which I should regret more than the reflection, that I had in any way contributed to render a recourse to narcotics or stimulants habitual or necessary to a single patient. I believe, however, that a cautious use of opium is attended with little danger of leading to so terrible an abuse of the drug.

In giving opium to hospital patients, I never tell them what they are taking; and one reason for preferring the compound soap-pill, in such cases, is, as I have before intimated, that the nature of the medicine is not apparent from the prescription, if the patient should read it. The opium should be discontinued as soon as it can be dispensed with,—as soon, that is, as restlessness and frightful dreams have ceased to harass and exhaust the patient. The rapid convalescence, and the renewed health, and strength, and spirits, which are wonderfully promoted by securing sound and refreshing sleep, will generally enable the patient at once, and without difficulty, to dispense with the use of opiates. I should withhold opium from a patient who neglects any directions which I have given him as to exercise, diet, and the general management of himself, and whose restlessness and nervousness appear to result from such negligence. In other words, I would not encourage a patient to trust habitually to opium for the removal of discomforts which might be avoided by the exercise of self-control, and by obedience to natural laws.

I beg to make an earnest protest against the routine practice of giving opiates to every patient who complains of inability to sleep. Our first care must be to discover, and then to remove the cause of the sleeplessness. We shall meet with some indolent patients, for whom the best soporific is regular employment and daily active exercise in the open air; for others, who are feeble, tonics and nutritious food will be the appropriate remedies; and again, in other cases, dyspeptic symptoms will cease, and refreshing sleep will return, under the influence of an occasional aperient and a carefully regulated diet. In most cases of this kind, the exhibition of opium would not only be unsuccessful, but positively hurtful.

* * * * *

The cases in which the opiate treatment is most rapidly and completely successful are those in which the nervous symptoms are the result of some past grief or anxiety, or fatigue, the impression of which remains, and is

* Since this lecture was delivered, I have found reason to believe that one of the best substitutes for opium in the cases referred to, is chloroform, in doses of from ℥x to ℥xx, made into a draught with mucilage.

perpetuated by the patient's inability to obtain refreshing sleep. In such instances, a few nights of sound sleep, procured by means of the opium, rarely fail to effect a rapid cure, and this, too, after the nervous symptoms have continued for many months, or even for years.

Another class of cases in which equal benefit is often derived from a similar method of treatment, are those in which nervous restlessness has been induced by continued over-work, whether mental or bodily. In such instances, it is obviously desirable, as I have before intimated, that the patient should rest, or diminish his labours, if possible; but the patient may assure us, that he has no alternative but to go on with his work, or to lose his employment, and with it his means of living. In such a case, we may often prevent over-worked men and women from breaking down, and enable them to go on in comparative comfort by giving an opiate nightly for a week or two. Refreshing sleep will be induced, the appetite will return, and, as a consequence, the strength and spirits will revive. And the strength and spirits thus obtained are not false and artificial in the same pernicious way as the stimulus obtained from alcohol, by which too many are tempted in the circumstances to which I have referred. The temporary help which a languid body or mind derives from alcohol is generally followed by a corresponding amount of depression, and with this there comes a craving for a repetition of the stimulant. Another bad result of the too free use of alcohol is a loss of appetite and an impaired power of digestion. Now, the effects of the opiate plan of treatment, conducted with the precautions to which I have before alluded, are in most respects the opposite of those produced by alcoholic stimulants; for we seek, by means of opium, a natural remedy for fatigue, that remedy being sleep, which brings with it a desire for food, and the power to digest it. Alcohol is taken for the sake of the immediate stimulus; the subsequent depression is the drawback upon its utility as a means of keeping up the working powers. The object in giving opium is to obtain, not its stimulant effects, which are comparatively slight and transient, nor immediately its composing influence, but the refreshment which follows the latter, and which has nothing corresponding with it among the ordinary consequences of alcoholic stimulants.

My objections to the *abuse* of alcohol as a stimulant do not of course apply to the use of wholesome wine and beer as articles of diet by those who require them, and who appear to derive benefit from them. Moreover, there are certain cases of nervous disease in which some form of alcoholic stimulant may be given with great advantage, either alone or in conjunction with opium. I refer to cases of extreme restlessness, either with or without delirium, and whether resulting from intemperance or from grief, or watching or fatigue, when the bodily powers are very feeble, although under the mental influence there may be great excitement. In these cases, repeated large doses of opium sometimes fail to procure sleep, but appear rather to have a depressing influence: the patient's skin becomes cold and is bathed in perspiration, while the delirium and excitement continue. In such circumstances, the continued use of the opium is not only useless, but injurious and dangerous, and the surest mode of arresting the collapse, and of procuring sleep, is to give freely either wine or brandy, or, in cases of intemperance, the stimulant to which the patient has been accustomed, with beef-tea, or some other form of nourishment.

It is scarcely necessary to observe, that in all cases of nervous disease we must carefully watch the signs of functional disturbance or of structural change in any organ of the body, and that we must meet such symptoms by the appropriate remedies. And although, in most instances, a tonic plan of

treatment is required, yet we must not hesitate to resort to measures of depletion if they are called for by the occurrence of such organic disease as appears to need this treatment.

The cases which are least favorable either for the opiate or for any other plan of treatment, are: 1st, cases of confirmed hypochondriasis or melancholy of very long duration, and especially when these have the character of religious despondency; 2dly, cases in which extreme nervousness has resulted from great terror, or from a sudden shock which has left a deep and durable impression upon the mind and nervous system; and, lastly, cases in which the symptoms are perpetuated by some constant source of anxiety or sorrow.

These classes of cases, although very unfavorable, and often little benefited by any plan of treatment, whether medical or moral, are yet by no means hopeless nor always incurable. Their unfavorable and unmanageable character is, however, greatly confirmed when they are complicated with epilepsy; and this whether the epilepsy has been induced by a sudden shock of grief or terror, or whether it has supervened upon long-continued anxiety and nervousness.

ART. 23.—*On the Nature and Proximate Cause of Insanity.*

By Dr. DAVEY.

(London, Churchill, 12mo, 1853.)

Arguing from the fact, that the most violent forms of furious mania more commonly occur to persons of weak and delicate fibre, and of great susceptibility,—that the more urgent symptoms of acute insanity are more frequently witnessed in combination with a small and feeble and quick pulse, cold skin, and a retracted and anxious countenance,—that the most appropriate and successful treatment consists in the administration of sedatives with a generous diet, and the employment of those various means which are calculated to improve the general health,—and that many cases of violent mania have been cured by the author by the administration of wine and steel,—Dr. Davey argues that insanity is a *nervous disease*, and that inflammatory symptoms in the brain and its membranes are secondary and non-essential. These views were first put forth in the ‘*Zoist*,’ in 1843, and Dr. Davey’s chief object in the present work is to call attention to this fact, and to claim priority to Dr. Henry Monro, who has recently published a work enunciating similar views.

According to the author’s own showing, however, he was himself anticipated *in some degree* by Drs. Crichton, Cullen, Good, and Willis, though without his knowledge; and therefore it is the more natural to suppose (which we have every reason to believe) that Dr. Henry Monro was similarly ignorant of any predecessors in the same path. It is the more natural to suppose this, because Dr. Davey’s views, when first enunciated, were hid in a shroud of phrenology and materialism, and then buried from general view in the ‘*Zoist*.’

Be this as it may, however, the views themselves are, *practically*, of great importance, and *so far* we have great pleasure in urging them upon the attention of our readers, and in adding a quotation which may serve as a key to the contents of the volume.

"It is quite necessary that pathologists should be prepared, *at this time*, with more correct views of insanity than those too generally entertained. All know well the relation of *neuralgia* to the sensory nerve-fibre; of *chorea* or *tetanus* to the motor track, or its dependencies; of *asthma* to the pulmonary nerves; or *angina pectoris* to the cardiac;—all practitioners are prepared, I take it, to explain the dependence of either one or the other of the diseases here named—of neuralgia, tetanus, &c., on a '*morbid sensibility*' of specific portions of nervous matter, *grey* or *white*; but all do not so well know, it would seem, that the only difference between maniacal affections and those I have just named, is in the *seat*, and not in the nature of the disorder. The parts first or directly affected in these several morbid conditions enumerated, exercise, as a general rule, certain functions in the animal economy, *i. e.*, they contribute their respective aids to the animal functions, which, combined, constitute the *life* of the individual; but *exceptions* now and then occur, and the same parts then exercise an abnormal influence,—contribute not *aids* but obstructions to the animal functions in a state of health; or, in other words, what was *use* becomes *abuse*; disease is set up in the nervous system, and the nature of this will depend on that portion of the nervous organism affected. If it be the grey matter of the brain, insanity in some shape or the other will show itself; if it be the grey matter of the cord, sensation will be deranged; if it be in the medullary or white fibrous matter of the brain or cord, either volition or motion will be impaired, and so on; and hence the occurrence of not only mania and dementia, but of neuralgia and anæsthesia, of tetanus, chorea, paralysis,—and what is a very material point, each and all of which, not forgetting *asthma* and *angina pectoris*, to carry out the simile, are commonly, in *chronic cases*, complicated with an asthenic inflammation of the vascular tissue of particular parts;—the usual signs of which are not only discoverable after death, but are indicated to the physician or surgeon during life.

"Pinel and Jacobi, Haslam and Esquirol, have distinctly admitted that 'no lesion sufficient to account for the phenomena of uncomplicated *insanity* 'have been hitherto detected in the *brain*;' and strange to say, Laennec has employed these very *words* to prove the same of '*ASTHMA*' and the LUNGS. Nor does the parallel insisted on end here;—it has been above shown that insanity, as a general rule, occurs to the delicate and enfeebled, and to those of much susceptibility; that this is the case with the various nervous affections named, no one will doubt. Attacks of insanity, like those of neuralgia, hysteria, chorea, tetanus, asthma, and angina pectoris, are not unfrequently quite sudden, *i. e.*, not characterised by any premonitory symptoms, and what is more, are oftentimes but of temporary duration; insanity is essentially a remittent, if not a paroxysmal disease, and so also of hysteria, chorea, asthma, &c. Like the *neuroses* generally,—*insanity* will sometimes, and all at once disappear, and that even after long years of endurance, and without any of the usual signs of amendment preceding the restoration of the party afflicted. The *treatment* found most efficacious in lunacy is precisely that required in the management of the '*neuroses*;' whenever cerebral derangement, or neuralgia, or chorea, or tetanus, or asthma, or angina pectoris is found compli-

cated with local inflammatory disorder, increased vascularity of the structures involved, local bleeding is practised with good effects; counter-irritation and mercurial alteratives (with the occasional employment of opiates) are then also prescribed. But apart from such a complication in these several maladies named, the indications of treatment required are equally applicable to any one or other of them. It will be, I apprehend, readily conceded, that in *all*, it is of the first importance to establish a normal action of the *prima via*, thereby ensuring a healthy state of the secretions and excretions, both as regards quality and quantity; in *all* the necessity to counteract the debilitating influences of diseased action in the system by the use of tonic remedies, as quinine, steel, &c., and so to preserve the constitutional powers, as far as possible, unimpaired, is sufficiently apparent to every practical man. In each one and all of these affections the adoption of that physical regime calculated to supply pure air to the lungs, appropriate food to the stomach, power to the muscular system, agreeable and varied occupation to the mental faculties, and tone to the perspiratory apparatus, will be held as an essential element of treatment."

ART. 24.—*On the Utility of Prolonged Hot Baths in the Treatment of Insanity.* By Dr. F. WINSLOW.

(*Psychological Journal*, April, 1854.)

"In the treatment of acute mania, the remedy next in importance to cautious depletion is that of *prolonged hot baths*. To Dr. Briere de Boismont, of Paris, at whose excellent institution I first witnessed the application of this remedial agent, the profession is indebted for reviving a practice which had long fallen into disrepute. In the treatment of acute mania, the prolonged hot baths will be found of the most essential service. Dr. Briere de Boismont has recorded the history of sixty-one out of seventy-two cases that were subjected to this mode of treatment. Three fourths of this number were cured in a week, and the remainder in a fortnight. The patients remain from eight to ten and fifteen hours in warm baths, whilst a current of cold water is continually poured over the head; the temperature of these baths is from 82° to 86° Fahr.; the affusions 60° Fahr. Among the therapeutic effects of these baths, Dr. B. de Boismont reckons a diminution of the circulation and respiration, relaxation of the skin, alleviation of thirst, the introduction of a considerable quantity of water into the economy, an abundant discharge of limpid urine, a tendency to sleep, a state of repose. This mode of treatment is said to be inadmissible in cases of periodic intermittent mania, in insanity beginning with great mental impairment, or associated with epilepsy or general paralysis. The result of my own experience of this plan of treatment has produced a very favorable impression upon my mind, and I think it is entitled to a fair trial in all our asylums where recent cases are admitted."

ART. 25.—*Upon the Question of Bleeding in the Treatment of Insanity.*
By Dr. FORBES WINSLOW.

(*Psychological Journal*, April, 1854.)

"In regard to the treatment of acute mania," writes Dr. Winslow, "the important and much litigated question among practitioners of all countries, is that relating to the propriety of depletion. Need I refer to the conflicting and contradictory opinions entertained by eminent writers on this important and much-vexed therapeutical point? Whilst some practitioners of great repute and enlarged experience fearlessly recommend copious general depletion for the treatment of insanity, and cite cases in which this practice has been attended with the happiest results, others, equally eminent, whose opinions are as much entitled to our respect, fearlessly denounce the lancet as a most fatally dangerous weapon, and shudder at the suggestion of abstracting, even locally, the smallest quantity of blood! In avoiding Scylla, we must be cautious of being impelled into Charybdis. The error consists in a vain effort to discover a *uniform mode of treatment, and attempting to propound some specific mode of procedure adapted to all cases.* He who maintains that bloodletting is never to be adopted in the treatment of mania, without reference to its character, its origin, the peculiar constitution of the patient, and the existence of local physical morbid conditions, which may be materially modifying the disease, and giving active development to morbid impressions, is not a safe practitioner. Neither would I confide in the judgment and practice of the physician who would, in every case of violent maniacal excitement, attempt to tranquilise the patient and subdue excitement by either general or local depletion.

"In attacks of insanity, when the symptoms are acute, the patients young and plethoric, the habitual secretions suppressed, the head hot and painful, the eyes intolerant of light, the conjunctivæ injected, the pupils contracted, the pulse rapid and hard, and the paroxysm sudden in its development, *one* general bleeding will often arrest the progress of the cerebral mischief, greatly facilitate the operation of other remedies, and ultimately promote recovery. In proportion as the symptoms of ordinary insanity approach those of phrenitis, or meningitis, shall we be justified in the use of general depletion. Although it is only occasionally, in instances presenting peculiar characteristic features—cases occurring in the higher ranks of life, where the patient has been in the habit of living *above par*, and is of a sanguineous temperament—that we are justified in having recourse to the lancet, there is a large class of recent cases presenting themselves in the asylums for the insane, both public and private, in the treatment of which we should be guilty of culpable and cruel negligence, if we were to omit to relieve the cerebral symptoms by means of the *local* abstraction of blood. It is, alas! the fashion and caprice of the day to recklessly decry the application of cupping-glasses or of leeches in the treatment of insanity, in consequence, I think, of the slavish deference shown to the opinions of a few eminent French pathologists, who have, by their indiscriminate denunciation of *all depletion*, frightened us into

submission, and compelled us to do violence to our own judgment. The local abstraction of blood is, in the hands of the discreet and judicious practitioner, *a powerful curative agent*; and yet it is the practice of some men, and men, too, of position, to discard altogether the remedy!

“I will briefly refer to the kind of case in which the local abstraction of blood will be found most beneficial, if proper regard be had to the temperament, constitutional condition, and the local circumstances modifying the character of the attack. In insanity, when the exacerbations occur at the menstrual period, leeches to the vulva and thighs, with the use of the foot-bath and the exhibition of aloetic purgatives, will be attended by the most favorable results. In irregular and obstructed menstruation, the local abstraction of blood will be very serviceable. In suppressed hæmorrhoids, leeches to the neighbourhood of the sphincter ani will act beneficially by unloading the hæmorrhoidal vessels, and thus relieve the brain of undue excitement. In cases of nymphomania, leeches to the vulva are indicated, and have been known to produce great benefit. In cases of intermittent insanity, the paroxysm may often be cut short by relieving the overloaded state of the vessels of the head by means of cupping or the application of leeches. In some instances, I have applied leeches to the Schneiderian membrane, particularly for the treatment of insanity occurring in early life, and connected with conduct evidently the effect of cerebral irritation. I have seen this mode of procedure of essential benefit in persons of plethoric constitution and of sanguineous temperament. Occasionally the insanity is found to be associated with active visceral disease, or with hypertrophy and other affections of the heart. Under these circumstances, when there exists great tenderness over the region of any of the visceral organs, and we are satisfied, by a careful stethoscopic examination, that hypertrophy of the heart is present, leeches applied over the seat of the local mischief, conjoined with other appropriate treatment, will materially aid us in subduing the maniacal affection. In cases of illusions of hearing, or of vision, it will often be necessary to apply leeches behind the ears, or over the superciliary ridges. I have known this practice entirely remove the morbid illusions which had been embittering the patient's life.

“But apart entirely from the local affections to which I have referred, for the treatment of idiopathic insanity, apparently without any complications, or modified by any of the associated diseases, the careful and temperate local abstraction of blood, when general depletion is inadmissible, will often materially shorten the duration of an attack and restore the mind to a healthy condition. I am anxious to record my favorable opinion of this mode of treatment, because I have witnessed so many sad results from an opposite timid and reprehensible neglect of the means placed within our power for the treatment of the varied forms and degrees of mental derangement. Sad consequences have undoubtedly followed the indiscriminate use of depletory measures. The presence of violent mental excitement has occasionally led the practitioner to the conclusion that the disease was of an active character; and in the attempt to allay the undue cerebral excitement by means of antiphlogistic measures, the patient has sunk into incurable

and hopeless dementia! But whilst recognising an *anæmic* class of cases, where great excitement is often associated with loss of nervous and vital power, we must be cautious in permitting serious disease to be creeping stealthily on in the delicate structure of the brain, no effort being made to relieve the congested cerebral vessels or inflamed nervous tissue, until serious disorganisation has taken place in the vesicular matter, and the patient is for ever lost."

ART. 26.—*On the Internal Use of Chloroform in Hypochondriasis.*
By Dr. OSBORNE.

(*Dublin Quarterly Journal of Medicine*, Nov. 1853.)

At a recent meeting of the College of Physicians in Ireland, Dr. Osborne stated that he had lately, in two cases, opportunities of observing a peculiar effect of chloroform taken into the stomach, in controlling the depressing and saddening feelings belonging to hypochondriasis. Considering that state to be produced by a depraved sensibility of the stomach or colon, and frequently of both, he was led to the internal employment of chloroform, which, being promptly volatilised at the temperature of the stomach and before being decomposed by the process of digestion, ought to be expected to act as a local anæsthetic, even though the dose should not be sufficient to produce any change in the function of the brain.

The first patient who presented the conditions requisite for this experiment was a married woman and a mother, aged 33, of a querulous disposition, as was well marked in her countenance, and who had been on a former occasion under his care and that of another practitioner, complaining of a variety of pains in the abdominal region; and she, although relieved, yet persevered in the belief that she still had some internal disease. She now appeared to labour under spinal neuralgia. After this had yielded to the application of nitrate of silver to the spine, and some other remedies, she still continued to feel an indescribable sensation of depression, and of internal annoyance, no longer to be referred to the spinal nerves;—no cause for it could be detected. The appetite was good, and the action of the bowels regular. In two days, after taking ten drops of chloroform thrice daily, she *began, for the first time, to acknowledge that she was better*, and in a few days afterwards was free from complaint. The second case was that of a man-servant in the Linenhall, aged 29. He complained of the deepest dejection of spirits, and of an uncontrollable aversion to make any exertion. His countenance expressed sadness and moroseness. All the functions were in a healthy state, except that the heart's action became tumultuous when excited either by emotion or exercise; but no organic disease could be detected. He stated that he had not been addicted to excess of any kind, and that there was no cause for his lowness of spirits. He got valerianate of zinc, and also pills to regulate his bowels; but although the heart's action became steadier, yet the depression and inward sensation continued the same. After taking twenty drops of chloroform thrice daily for

two days, *he began to confess*, what he never did before, *that he was better*. His sleep being still unsatisfactory and disturbed by disagreeable dreams, he was ordered to take forty drops at bedtime. He now stated that he slept with a pleasing dream of seeing his brother, who had gone to America. During the two following nights he took the same dose; and, although his sleep was interrupted by the disturbance attendant on a man in a dying state in the same ward, yet when he did sleep his dreams were pleasant, being usually that he was enjoying the company of the most agreeable of his friends. He was dismissed with a marked improvement in his countenance, and *acknowledging that he was better*.

These cases are selected as being nearly free from complication. It must, however, be recollected, that there are several other uses to which chloroform may be applied in affections of the stomach and intestinal tube, but this appears to be one of the greatest value, inasmuch as no other medicine can be named which in this respect seems to come into competition with it. How far the effect is permanent and capable of completely removing the sensation of hypochondriasis, or in what degree it may require to be resumed or repeated, Dr. Osborne as yet has not been able to determine; neither did he think it necessary before this association to clear himself from the absurdity of bringing it forward as a universal *nepenthes*.

With regard to the mode of administering chloroform internally:—as its specific gravity is nearly 1.5, and it is insoluble in water, it must, when swallowed, soon settle at the bottom of the fluids in the stomach; and although it is volatilized, yet being covered, and under pressure, it may remain in contact sufficiently long to irritate the stomach at the part of contact, as was proved to take place in the case of camphor by Orfila. Hence, then, it is desirable that it should be diffused or diluted before it is taken. In aqueous mixtures, even when shaken up, it soon falls, so that it cannot be equally measured out, and its pungency is annoying even to the mouth. In gum Arabic mucilage it soon collects in large globules at the bottom of the bottle, covered with a white powder of arabine which it has precipitated. To obviate this inconvenience it has been proposed to give it suspended in syrup, but to make a syrup of the same specific gravity 1006 grains of sugar to the ounce of water would be required, while that of the Pharmacopœia contains only 874 grains; besides, chloroform has a heavy sweet taste which renders the addition of syrup peculiarly objectionable. The menstruum which Dr. Osborne used in the above and other cases was the decoction of Irish moss (carrageen). With this chloroform forms a uniform mixture, and in the proportion of ten drops to the ounce they remain for an indefinite time without separation taking place. The taste of the mixture is sweet like that of a heavy syrup, to relieve which it may be well to add a few drops of some aromatic or bitter tincture. Another mode of avoiding the pungency of chloroform is by giving it in combination with tinctures, as it is soluble in alcohol, and remains dissolved even in proof spirit. The following is a specimen of this kind of formula, and is peculiarly grateful to the taste, and susceptible of various additions and alternations, according to the requirements of individual cases:—Chloroform, and tincture of ginger,

of each half an ounce; aromatic spirit of ammonia, two drachms. Mix. Twenty-five drops to be taken thrice daily in a wineglassful of milk.

ART. 27.—*On the Internal Application of Belladonna in Delirium Tremens.* By Dr. GRIEVE, Physician to the Dumfries and Galloway Infirmary.

(*Edinburgh Monthly Journal*, Nov. 1853.)

Reflecting upon the contracted state of the pupil in the second or developed stage of delirium tremens, Dr. Blake imagined that, "by dilating the pupil we might so influence the disturbed visual sense as to dispel, or at least modify, those 'false creations proceeding from a heat oppressed brain' which characterise this disease, and thus conduce to the comfort and tranquillity of the patient;" and one case is related in which this plan was adopted with apparent benefit. In support of his idea, Dr. Grieve reminds us that the late Dr. Graves proposed the use of belladonna in such cases of fever as were attended with cerebral disease, and contraction of the pupil.

CASE.—On the 25th of March last I was called to attend D. W., æt. 49, a man naturally of a robust constitution, but who, of late years, had been much given to intemperance. On inquiry I found that he had been more or less intoxicated for the last three weeks, that he had slept none for several nights in succession, and that the present was his fourth attack of delirium tremens. I found him suffering under great nervous excitement and commotion; labouring under all sorts of optical delusions; fancying that lizards, centipedes, and other entomological horrors were crawling in and around his bed, from which he was convulsively making vain efforts to dislodge them. His pulse was upwards of 120, soft and compressible; his whole body was bedewed with a cold clammy perspiration, and the pupils of both eyes were much contracted. Having obtained some ext. belladonnæ, I rubbed a little on the eyelids, and remained by his bedside to mark the result. My expectations were soon more than realised, for no sooner was the physiological effect of the drug manifested in the dilated state of the pupils, than the spectral illusions gradually became less and less distinct, the nervous tremors and excitement began to subside, and he soon became comparatively quiescent and tranquil. Soon after this I had the satisfaction to see him fall into the much coveted sleep. Thus I left him; and on revisiting him in a few hours I found that he had slept for two hours; his pupils were then still much dilated; his pulse was below 100, firmer, fuller, and of better character; and altogether his condition, mental and corporeal, was much ameliorated. On interrogating him about his recent hallucinations, he replied, "They were all stuff and nonsense; I see no more of them."

ART. 28.—*On Vertigo*. By Dr. J. RUSSELL REYNOLDS.

(London, Churchill, Pamphlet.)

Dr. Reynolds uses the term vertigo in its widest sense, and makes it to include vertiginous *sensations*, as well as vertiginous *movement*. His remarks upon his very difficult theme are full of interest, and we cordially recommend, therefore, the pamphlet in which they are contained, to the attention of our readers.

Vertiginous movements. The facts of daily life, of experimental physiology, and of clinical observation, concur to establish that all our muscular movements, for the attainment of definite ends, such as locomotion, attitude, equilibrium, &c., are guided by, or occasioned by, sensation. When the movement is volitional, it is directed in accordance with sensational instruction; when a-volitional, the sensorial impressions are very frequently the direct 'stimuli' of contraction. Rotatory movements are shown, by an historical sketch of the experiments performed by Magendie, Flourens, Longet, Lafargue, Schiff, and others, to depend upon a destruction of bilateral symmetry in sensorial impressions. This is, *per se*, sufficient for their production, (as shown by the later observations of Flourens and Longet upon the external organs of sensation,) and the varied lesions of internal organs which produce them in a more complicated form, consist essentially of destruction of those parts which are the centres of sensation, or which places these centres in communication with the motor system. The ease with which such movements may be induced, their regularity, force, and persistence, vary with different conditions of lesion; but they are, generally speaking, in proportion to the degree of dependence of the animal (used for experiment) upon sensational guidance.

Vertiginous sensations may be defined to be the *sensation* of motion without (or independently of) its real occurrence. Two *classes* may be recognised: in one the apparent motion is referred to surrounding objects (*objective vertigo*); in the other to the individual's own person (*subjective vertigo*).

The *conditions of causation* are twofold, *i. e.*, they may be either external to the individual, or they may consist of some internal change. The former resolve themselves into sensorial impressions of a peculiar character, the marked feature being want of symmetry. Rotation of surrounding objects, or of the body, and the position of the latter in unusual relationship with the former, when such position destroys the equality of objective impressions, illustrate the first class of conditions. The internal causes (remote) may be referred to idiopathic, or induced changes to the nervous system itself; and to abnormal conditions of the general economy, or of some particular organ.

The *pathology* of vertigo has passed through various stages of development. The "animal spirits" were for a long time the means of explanation (Willis, Bonchis, Haller, Wedel, &c.) Vicious conditions of the organs of sensation, and movements of their parts, took the place of movement in the animal spirits (Sauvages). The phenomena were considered psychologically by others (Darwin, Crichton, &c.)

We then find simple physical conditions of the brain, such as congestion, &c., referred to as satisfactory explanations (*e. g.*, in the 'Dictionnaire des Sciences Médicales,' &c.) Purkinje, Müller, and Romberg held different views, which do not appear conclusive. Purkinje pointed out that in vertigo of external origin, *e. g.*, from rotation of the body, there was the tendency to continue rotatory movement, as well as the feeling of its production. It is concluded, generally, that the apparent motion of surrounding objects is due to the persistent ocular spectra occasioned in the manner described by Aimé, Plateau, Müller, &c.; the sensation of personal movement is a similar condition referred to the nerves of muscular sense. Their peculiar character, that of rotation, is due to the special manner in which they are induced, viz., by one-sided, or asymmetrical sensorial impressions. When of little intensity, this is probably the sole cause; but when more severe, there is a condition of the centric nervous system analogous in character, but more persistent in its effects. Vertigo of internal origin is referable to a similar centric condition, occasioned by internal causes.

The effects of habit, and of renewed sensorial impressions, confirm this view; and as different individuals suffering from vertigo present, with much constancy, variations in the character of this symptom, a scheme is given in which are placed several points of distinction and interest, the accurate observation of which may lead to a more correct appreciation of the phenomena, and an increase of its diagnostic value.

The cases which have hitherto fallen under the author's own observation are not sufficiently numerous to warrant the formation of any general results; but the marked differences which they present induce the hope that, at some future period, such results will be obtained, and will prove of value not only in the diagnosis of disease but in its treatment.

ART. 29.—*A Case of Hydrophobia said to be Cured by Chloroform.*
By Dr. STEWART, of Tennessee.

(*Dublin Medical Press*, Sept. 28, 1853.)

Referring to the cases reported in one of our former volumes (xvi, p. 53), in which the sufferings of the patient were greatly mitigated by chloroform, Dr. Stewart makes the following communication to the 'American Lancet:'

"In 1850, if I mistake not, I read in the 'American Courier' the report of an instance of this dreadful affection which was successfully treated by the anæsthetic. The patient, a Mrs. Burr, was under the care of Dr. Jackson, and of another physician whose name now escapes my mind, both gentlemen being residents of Philadelphia. The patient was kept under the influence of the chloroform for several days."

ART. 30.—*Remarkable Development of Intelligence in a Cretin during Hydrophobia.* By M. NIEPCE.

(*Gaz. des Hôp.*, Aug. 27, 1853; and *Edinb. Monthly Journal*, May, 1854.)

Antoine Chauvet had been a cretin from birth, and at the age of 17½ years presented, in a marked degree, all the physical and mental characters of cretinism. He could only articulate a few words imperfectly. He had not sufficient intelligence to learn reading or writing, nor to understand the catechism. His affections were little developed; he had some liking for his mother, but showed none for his brother. On the 10th of May last he was bitten by a mad dog; the wound was slightly cauterised with some drops of ammonia by a druggist, about an hour after the accident. Nothing was observed till the 27th July following, about eleven o'clock, when Chauvet refused to eat or drink; and two hours afterwards all the symptoms of hydrophobia made their appearance. From the commencement of this disease, to the great astonishment of every one, Chauvet spoke with much greater facility than he had ever done before, addressing those around him, and relating the sufferings which he felt. In the intervals of the paroxysms, he called his mother and brother, showing his affection for them by the most tender caresses, and entreating them not to leave him alone. He caused the priest to be sent for, and on his arrival expressed with tears his bitter regret that he had never been able to learn the catechism. During the remainder of his illness, his intelligence became always lucid during the paroxysms of suffering, when he would put questions to those around him and give directions to them; but as soon as calm or depression ensued, the natural state of his intellect returned. On the 1st August, acute delirium came on, during which he spoke frequently and with volubility, citing facts which had happened several years before, and to which he had never seemed to pay attention. The delirium lasted till night, when it was succeeded by deep coma. He died at five o'clock on the following morning.

ART. 31.—*Report regarding the Cases of Hydrophobia which occurred in France during the year 1852.* By M. AMBROISE TARDIEU.

(*Annales d'Hygiène*, Jan., 1854; and *Edinb. Medical Journal*, May, 1854.)

In the year 1850, the Minister of Agriculture and Commerce, on the recommendation of the Committee of Public Health, sent a circular to every prefect in France, requesting him to give information regarding any cases of hydrophobia which might occur in his department. A number of reports were in consequence sent in, but as these were in some respects incomplete, a fresh circular was issued detailing more particularly the manner in which the cases should be recorded. From the information so obtained, M. Tardieu drew up a report regarding the cases which occurred in the years 1850-51, as well as in 1852. As the report for the year 1852 is much more complete than the others, we subjoin an abstract of it.

1. The number of cases of hydrophobia which occurred in France during the year 1852 was 48. These were observed in 14 departments; the department in which the greatest number occurred was that of the Hautes Alpes (in the south-east of France, latitude between 44° and 45°); while the department of Lozère (also in the south, and having the same latitude as the other) came next.

2. With regard to the sex; 36 of the 48 cases were males, 12 females; the proportion in the two preceding years was almost the same.

3. The following table exhibits the ages of the subjects affected with hydrophobia:

| | | | |
|-------------------------|----------|----------------------|----------------|
| Below 5 years, in 1852, | 3 | in two former years, | 4 = 7 |
| From 5 to 15 | 16 | „ „ | 14 = 30 |
| „ 15 to 20 | 4 | „ „ | 11 = 15 |
| „ 20 to 30 | 3 | „ „ | 9 = 12 |
| „ 30 to 60 | 17 | „ „ | 37 = 54 |
| „ 60 to 70 | 1 | „ „ | 7 = 8 |
| Above 70 | 0 | „ „ | 6 = 6 |
| Not mentioned | 4 | „ „ | 0 = 4 |
| | <hr/> 48 | | <hr/> 88 = 136 |

This table shows the incorrectness of the opinion which ascribes the disease to the effects of terror, for it shows that 7 children under five years of age have been attacked.

4. All the cases which occurred in 1852 originated in the bites of dogs, except one, where the bite of a cat was the cause of the disease.

5. The situation of the wounds inflicted by the rabid animals was as follows in 48 cases:—On the face 13 times; on the upper extremities 15; on the lower extremities 12; not mentioned 8. In two of the cases the disease was communicated by pet dogs which were accustomed to lick their masters' faces, and where excoriated lips were the seat of the inoculation.

6. In 40 out of the 48 cases the date of the inoculation has been observed. It occurred in March, April, and May, in 10 cases; in June, July, and August, 16; in September, October, and November, 4; in December, January, and February, 10.

7. It seems a considerable number of individuals who are bitten by rabid animals escape the disease. During 1852 some observations were made on this point, and it appeared that out of 44 persons bitten about the same time, 23 only were attacked.

8. The period of incubation of the disease was exactly noted in 20 cases. It was as follows:—Less than a month in 8 cases; from one to three months, 10; from three to six months, 1; eleven months, 1.

9. The duration of the disease in 20 cases was, two days in 6 cases; three days in 8; four days in 5; six days in 1.

10. The termination of *confirmed* cases of hydrophobia was constantly fatal. Of the 48 cases, it appears that only 27 came under this category, in the others the effect was merely local. In 12 of these 27 cases no precaution was taken, in 4 no mention is made of this circumstance. In 8 of the remaining 11 cases cauterisation was re-

sorted to immediately, in 3 at a late period. Of the 21 individuals who escaped cauterisation was energetically performed in 12 cases; the details of the other 9 have been omitted.

11. As to the mode of cauterisation employed, the actual cautery was used in all the cases but 5, and these were treated by protonitrate of mercury, nitric acid, ammonia or butter of antimony. In Germany it has been proposed to excise the bitten parts, and then to wash the wounds with a solution of caustic potash.

ART. 32.—*A Case in which Tetanoid Spasms returned during Suckling in Five successive Confinements.* By M. BARBIERI.

(*Gaz. Méd. Italiana Toscana*, Jan. 3, 1854; and *Gaz. Hebdom.*, 10 Mar. 1854.)

The subjoined case is very curious, as showing, or appearing to show, the connection between spasm and exhaustion.

CASE.—A woman, æt. 32, robust, and up to that time in good health, became afflicted with occasional painless twitchings in her feet and legs, after having nursed her first child for some weeks. This child died of pemphigus when ten months old, and contemporaneously with this event the twitchings ceased.

A year afterwards a second child was born. This child only lived for seven days, but notwithstanding the shortness of the period, the twitchings had time to return, and to extend to the thighs and loins. The mother again recovered as soon as the secretion of milk was suspended.

Thirteen months later, after the birth of the third child, the spasms returned as the milk began to flow, and they recurred with increased violence every tenth day. On these occasions a fleeting tetanic spasm passed over the body, seizing one part after another, and never remaining in one place longer than four or five minutes at a time. On these occasions there was considerable pain, the pulse and breathing were quickened, and the skin was drenched in perspiration. The paroxysms lasted from twelve to twenty-four hours, and then passed off without any consecutive fever. Bleeding, antispasmodics, purgatives, and valerianate of quinine were tried without avail. At the end of ten months, however, the child died of dysentery, and once more the spasms and the flow of milk ceased together.

The same results followed after two successive confinements, and in each case weaning was found to be the only remedy, and this afforded immediate and complete relief. At present the patient is full of life and well.

ART. 33.—*An Anomalous Case of Tetanus.* By Dr. LITTLE, Surgeon to the Sligo County Infirmary and Gaol.

(*Dublin Medical Quarterly*, Feb., 1854.)

This case is remarkable from the absence of pain, but it is not unique. Sir Gilbert Blane, it appears from Dr. Little's paper, records a fatal case, in which "the spasms communicated a sensation rather pleasing than otherwise, nor was any pain experienced to the last;" and Dr. Moseley, physician to Chelsea Hospital, who wrote in 1795, and who saw many cases of tetanus in the West Indies, says, "I have known people in tetanus, with the sweat running off them from the

violent pulling of the muscles, who have nevertheless told me that they indeed felt a distress they could not explain, yet they could not say it was actual pain."

CASE 1.—Catherine Gannon, æt. 22, was admitted into the Sligo County Infirmary, January 1st, 1851. She is a married woman, seven months pregnant of her second child; has hitherto been remarkably healthy. On the 13th of December, while stooping to brush her shoe, a dog upset a loaded gun standing against the kitchen wall, which, going off, discharged (she stated) a full charge of snipe-shot, wounding the upper part of the left thigh, external aspect, near the insertion of the tensor vaginæ femoris muscle, and the left mamma in two places. She was seen by Dr. Vernon, of Tubbercurry Dispensary, under whose care, until the supervention of the tetanic symptoms, the wounds progressed most favorably.

On Christmas and the following day, she felt her teeth a little sore, and on Sunday, the 28th, first perceived the muscles on the back of the neck rigid, and a sense of stiffness and difficulty in opening the mouth; the trismus has gradually increased since, and at present the teeth can be separated only to the extent of a quarter of an inch. She has no difficulty of deglutition, no sense of constriction of throat or œsophagus, *no pain anywhere*; the left shoulder joint is very stiff; abduction of the arm impossible, and the corresponding deltoid muscle and the muscles on the back of the neck alone affected with well-marked tetanic rigidity; the tetanic countenance slightly, but very sensibly marked; appetite good, but can only eat slops; bowels regular; skin cool, but very harsh and dry; pulse 80; *feels in perfect health*. Half a drachm of mercurial ointment was ordered to be rubbed in three times a day, and she was directed to take a table-spoonful of a diaphoretic mixture every third hour.

Jan. 2d.—She has sweated considerably, and for the first time since her accident. Bowels not opened since she came in; to have a castor-oil draught, and to continue frictions.

3d.—Bowels opened twice by castor-oil draughts; copious diaphoresis; in other respects as before. To continue frictions and diaphoretic mixture. Ten o'clock p.m. She has complained for the first time of tetanic spasms of both shoulders, and the peculiar præcordial pain (diaphragmatic) of tetanus, which she describes as a sense of crushing of the sternum towards the spine; had once a sense of stiffness, or involuntary extension of both legs; the spasms have attacked her about once an hour since 7 o'clock p.m. Continue frictions, and let her have a draught of forty drops of solution of muriate of morphia, to be repeated in an hour if necessary.

4th.—Tetanic spasm ceased at 12 o'clock. She only took one draught; slept well towards morning; tetanic spasms frequently attacking the shoulders and thoracic muscles, not the legs. Tetanic countenance very well marked. Bowels not opened since the night before last. To have a cathartic draught, and afterwards, if requisite, a turpentine injection. Mercurial frictions to be continued. Eight o'clock p.m. Tetanic spasms, but confined to neck, shoulders, and thorax, have just recommenced. Bowels well moved twice. Continue the frictions; to have a draught containing a drachm of solution of muriate of morphia, and repeated in an hour if the spasms become urgent.

5th.—Slept well from 12 o'clock at night, the paroxysms having been very severe and frequent up to that hour; the pain of scrobiculus cordis only affects her when sitting up. Continue the frictions; let her have two morphia draughts, to be used as last night, should the spasms supervene.

6th.—*Spasms set in exactly at 8 and ceased at 12 o'clock*; were very severe,

and occurred at regular intervals of half an hour. Slept well since 12 o'clock. Bowels naturally moved, and without medicine.

7th.—As yesterday.

8th.—Tetanic paroxysms attacked her at 8 o'clock precisely, and left at 12. Slept well after that hour. Bowels not opened since the day before yesterday. *In full ptyalism.* Frictions of mercurial ointment to be omitted; to have a gargle of chloride of soda; and to take some house medicine immediately.

9th and 10th.—Sharp paroxysms every twenty minutes or half-hour from 8 till 11; mouth very sore. To have an oil draught and a draught containing a drachm of solution of muriate of morphia at night.

11th.—Expresses herself better to-day, having slept well, and had but three spasmodic paroxysms at the same period of the evening and night. Bowels not opened, as the castor-oil draught was omitted by error; to be given now.

12th.—Bowels opened by castor-oil; slept pretty well; had five spasmodic attacks last night, but much less severe; can open her mouth a little, but the muscles of the jaw and neck are still very rigid. The morphia draught to be repeated as before.

13th.—No paroxysm for the last twenty-four hours; in other respects as yesterday.

15th.—No paroxysms now for three days. Cervical muscles and those of the jaws so relaxed as to permit of her moving her head pretty freely from side to side, and to open her mouth to about half its utmost extent. Tetanic expression much less marked: gums better.

24th.—Improving every day since last report. Ptyalism gone; expression natural; general health perfect.

27th.—Discharged, by her own desire, cured; child alive, and apparently vigorous.

ART. 34.—*Report on Cases of Tetanus in the Jamsetjee Jeejeebhoy Hospital, from January, 1845, to December, 1851.* By J. PEET, Esq., Professor of Surgery in the Grant Medical College.

(*Trans. of the Medical and Physical Society of Bombay*, New Series, 1851-52, Bombay, 1853.)

This highly-interesting report refers to no less than 195 cases of tetanus. The statistics of these cases are very striking—145, or 74·3 per cent., terminated fatally;—out of the entire number there was only an excess of 45 cases in favour of the traumatic variety of the disease. The relative mortality of the two forms is justly described as affording a very striking contrast to the statements of most systematic writers. The mild and tractable nature of the idiopathic variety, so generally adverted to, had not been observed. Thus, of 75 admissions for *idiopathic* tetanus, there were 57 deaths, a per centage of 76. Of 120 admissions for *traumatic* tetanus, there were 87 deaths, a per centage of 72·7. It thus appears that the idiopathic form is the more severe and fatal. Indeed, Mr. Peet thinks that the mortality of the traumatic form, as given above, has been over-stated. In analysing 28 cases of the traumatic form, it was found that the interval between the receipt of injury and the occurrence of the disease ranged from 2 to 30 days. In 81 fatal cases, the duration of the malady ranged from 1 to 39 days, the 2d, 4th, 5th, and 6th days being evidently the most critical, 46 cases terminating on those days. The author sums

up his remarks with the following conclusions:—1st. That the idiopathic form of tetanus is much more frequent in Bombay than in other parts of the world, and that, contrary to the experience of the disease in other places, it is more severe and fatal than the traumatic species. 2d. That it is often traceable to direct exposures at those seasons during which there are the greatest alternations of temperature. 3d. That, of the traumatic form, many cases are ushered in by distinct febrile symptoms; but there is not sufficient reason to conclude that this constitutional disturbance is evidence of any more decided state of inflammatory action in the nervous centres than is present in cases where febrile symptoms are altogether absent; nor would it appear that this febrile state is any indication of the severity or acute nature of the attack. 4th. That there is little doubt there exists in tetanus, as in most other diseases, a period of incubation, but that there are no facts to determine the length of time over which this state may extend. 5th. That in many cases the more marked symptoms are preceded by a peculiar expression of face (this has appeared to Mr. Peet to depend upon an apparent increase in breadth, the angles of the mouth being in some degree drawn outwards, the lips compressed, and the eyelids slightly corrugated. This expression is observed to be very different from that present at a later period, in which the skin is wrinkled, the furrows of the face highly developed, the angles of the mouth depressed, and the whole appearance that which has been so well designated by the term "*risus sardonius*"), and that this changed expression may exist for several hours before any other symptom of tetanus is present. 6th. That no reliance can be placed upon the frequency of the pulse as evidence of the severity or otherwise of the attack, but the condition of the pulse, in regard to strength, is of much importance. 7th. That hurried respiration and dysphagia almost invariably indicate a fatal termination. The author is able to adduce but little in favour of any particular mode of treatment; he would, however, except from this general statement the assiduous use of nutritious food. In any plan of treatment this, he insists, should invariably be viewed as an essential element; and, in many cases, the favorable termination will, he is convinced, be more dependent upon it than upon the medicines employed.

ART. 35.—*On the Employment of Chloroform in the Treatment of Tetanus.* By Dr. JACKSON, Surgeon to the Native Hospital at Calcutta; Dr. LAURIE, Professor of Surgery in the University of Glasgow; and others.

(1) *Indian Annals*, Oct. 1853; (2) *Glasgow Med. Journal*, Jan. 1854; (3) *Philadelphia Med. Examiner*, Nov. 1853; (4) *Lancet*, Dec. 10, 1853, and April 5, 1854; (5) *Dublin Hospital Gazette*, Feb. 1, 1854; (6) *Medical Times and Gazette*, April 22, 1854.

Chloroform inhalations have been recently tried in several cases of tetanus, and the spasm has always been suspended for the time; but it is difficult to arrive at any conclusive opinion respecting their remedial value owing to the great discrepancies of treatment in other respects.

1. Dr. Jackson ('Indian Annals') has drawn up a careful and valuable paper on the treatment of tetanus in the Native Hospital at Calcutta, "with a view of showing that great relief is afforded in that disease by the repeated inhalation of chloroform, added to the internal administration of extract of hemp and aloes, and, in the latter stages, of quinine and generous diet; and that many more cases of recovery have resulted from this plan of treatment than from any other.

"It is worthy of remark, however, that the same beneficial influence does not appear to be exerted in the cases of idiopathic tetanus as in the traumatic form—this disease generally proving much more intractable, although the opinion is somewhat at variance with what is generally supposed to be the case. Only three cases of idiopathic tetanus came under treatment at the Native Hospital during the past year, and they all proved fatal, whilst out of twelve cases of traumatic disease there were seven recoveries, and only five deaths. According to the old plan of treatment adopted in the earlier part of the year there were five deaths out of seven admissions.

"The cases most favorable for recovery would appear to be amongst the females, especially amongst those who are free from all febrile disturbance and have no bronchial affection; where there is a regular action of the bowels, and the nights are passed in sleep. Children under the age of five suffering from this disease do not bear the inhalation of chloroform well, and it is occasionally followed by the most distressing symptoms, so as completely to preclude its administration. Though in other cases of children, of even younger age, where operations are called for, the anæsthetic influence of the chloroform is very satisfactorily obtained, without any distress to the patient."

He gives the Indian hemp in doses of two grains every six hours, and repeats the inhalations every four hours.

2. Professor Laurie ('Glasgow Medical Journal') has tried chloroform or ether inhalations in nine cases, all of which (except one of trismus) died. He is in favour of cautious and careful inhalations, but he is not very sanguine. After a very interesting review of the results of different plans of treatment which had been adopted in the Royal Infirmary at Glasgow, he proceeds—"If no remedy yet tried has done good, and many have done harm, how are we to treat tetanus? I reply, negatively; put the patient into a dark room, keep him absolutely quiet, don't torture him with remedies which have been proved to be useless, give him as much nourishment as he can swallow, and trust the result to the powers of his constitution. *And if the spasms are severe, alleviate them by chloroform.*"

3. Dr. Bretton ('Philadelphia Medical Examiner') relates a case of traumatic tetanus which he considers to have been cured by chloroform inhalations.

4. Mr. Harding ('Lancet') speaks very warmly in favour of chloroform inhalations in tetanoid conditions, and relates a case of idiopathic trismus, of six weeks' standing, in which the spasm was relaxed by their means.

5. Dr. Symes ('Dublin Hospital Gazette') details the particulars

of a case of traumatic tetanus, in which the chloroform inhalations were used with great success.

6. Dr. Chambers ('Lancet') employed these inhalations in a case of idiopathic tetanus occurring in St. Mary's Hospital, and the spasms were always relaxed for the time; but the mode of treatment was ultimately abandoned in consequence of dangerous symptoms having occurred during one of the inhalations. The case recovered eventually.

7. Mr. Campbell de Morgan ('Medical Times and Gazette'), also, reports a case of traumatic tetanus in which he tried these inhalations. The spasm was always conquered for the time, but as its recurrence was not prevented, the remedy was abandoned. The patient died.

ART. 36.—*A case of Catalepsy.* By Dr. COLDSTREAM.

(*Edin. Monthly Journal*, April, 1854.)

The case, the abstract of which is subjoined, was read at considerable length before the Medical and Chirurgical Society of Edinburgh, on the 19th of April, 1854.

CASE.—The patient was a lady, æt. 29, of sanguine temperament. She had laboured some years before under lateral curvature of the spine, but her health continued good till 1852, when she was seized, while in the country, with the symptoms of simple fever, during the convalescence from which, she betrayed certain aberrations of intellect. She was brought into town for change of scene, and for some time she continued excited, capricious in her temper, and shunning society. In the course of the summer these symptoms disappeared, and in August she was in her usual state of health. Again, however, in September, she began to shun her friends, averting her eyes from persons who addressed her. During five months from October, she passed through many phases of mental complaints, and appeared disinclined to use her mental faculties. Prior to menstruation it was noticed that her head was hot and face flushed—symptoms, however, which were relieved by the flow. At this time she refused to speak, at times, for hours together: her silence was evidently voluntary. Her symptoms varied from time to time, but mental aberration was absent, though she was still suspicious of her strength of mind. In March 1853, she began to be obstinate, and complained of illness; she appeared depressed, and her extremities were observed to be cold. A few days after she threw herself from bed on the floor, and on her physician being announced, declared that she would never speak to him again. She kept her word, but she was subsequently dumb to every one. She immediately became cataleptic. In April, the last phase of her disease made its appearance, and lasted till her death, which took place in the following September. There was catalepsy, extreme quiescence and rigidity, anæsthesia, and unwillingness to eat. She lay on her back, and seemed to be destitute of feeling and consciousness, except for one hour in the morning, when she busied herself at her toilette, but if any one entered she instantly became cataleptic, and remained so as long as the visitor was in the room. When any attempt was made to move her, her muscles instantly became rigid. Even the eyes and the auditory canal appeared to be in a state of anæsthesia. She never spoke but twice; once during the application of galvanism, and again a short time before death. No words addressed to her seemed to affect her, except on one or two occa-

sions. Music had no effect upon her. Her attendants firmly believed, however, that she noticed all that passed around her. She slept regularly, muttered occasionally in her sleep, but there was no somnambulism. Her resistance to take food dated from the middle of April. The approach of the spoon to the mouth produced violent contractions of the muscles of the lips and jaws, the face becoming flushed during the struggle. For the sake of brevity, as the case was very protracted, Dr. C. classed the description of the symptoms under several distinct heads. And, 1. As to the cataleptic symptoms. They were always readily manifested when she was awake; a rude touch (a slight one was ineffectual), or any attempts at passive motion sufficed to produce them. They could be overcome, however, by exertion on the part of the attendants. She could balance her body on one limb, and maintain the posture for several minutes. A weight of 10 lbs. could be suspended on the extended arm from the wrist without deflection; a little more added to the weight, however, sufficed to pull the arm down. (In the case recorded by Heberden, 7 lbs. attached to the hand proved sufficient to bend the arm.) While in the horizontal position, she bore a weight equivalent to 12 lbs. on the lower limbs, when these were raised a short distance from the sofa. Uneasiness was only expressed by her on being made to assume for some time a half sitting posture, with the limbs placed horizontally. The eyelids were generally closed: on being touched, contraction of the orbicularis followed, but on force being used the elevators became cataleptic. The eyes were directed upwards, and had a vacant expression; the irides being more sluggish than natural. The symptoms were more pronounced in the after part of the day. The experiments that were made evidently induced fatigue, and on force being employed there were paleness of the face and quickening of the pulse. 2. As to the Quiescence. As already stated, for one hour only in the day did she move about, at other times not a muscle moved. Indeed, her appearance of absolute stillness produced a feeling of awe in the beholder, and almost induced the belief that we were looking upon a corpse. 3. The Anæsthesia. It was difficult to ascertain its extent correctly, as no response was elicited by any stimulus, except when galvanism was applied, and food was attempted to be introduced into the mouth. The most tender parts of the body were pressed, etc., etc., were touched by flies, or pricked with pins, and no shrinking was produced; yet, whenever an attempt to give food was made, violent movements took place. Noises, or nauseous substances in the mouth had no effect upon her, but she winced under a bright light. The resistance to food appeared to have no connection with the kind presented to her; the gustatory nerves seemed as much affected as any other. The motions following the touch of the spoon showed that the lips were not anæsthetic; yet they, along with the face, were frequently seen covered with flies without the slightest motion resulting. The application of hartshorn to the nose only produced a flow of tears. 4. Speechlessness; at first only the will was lost, and it might be attributed to hysteria, and afterwards she was ashamed of her taciturnity; but the silence that came on subsequently with the catalepsy began with her determination not to speak to her medical man, though she extended it to every one. During sleep she occasionally spoke; once during the action of the galvanic machine she called out "stop, stop," and when near death she faintly said "the sofa." 5. As to the resistance to the introduction of food. It was similar to what is observed in many cases of melancholia and mania. Even after emaciation had long existed, the attempt to feed her was attended with flushing of the face and a flow of tears, but the hands were never raised, or the head bent back in resistance. Food when once introduced into the mouth was seldom rejected, though it was swallowed slowly. Digestion

seemed normal. The pulse became more quick as the atrophy progressed. There was no bruit at the heart, and the respiration was soft and slow, as if she were asleep. The urine was healthy, it was generally passed during the struggles at her meals. The catamenia appeared shortly after the first appearance of catalepsy, but not afterwards. Her temperature was low, and the extremities generally cold. Death took place by exhaustion six months after the first occurrence of the catalepsy: the muscles preserving their rigidity to the last. No post-mortem examination could be obtained.

The Causes.—The predisposing were present in her active, sensitive, and by no means robust frame. She had sustained a severe shock from the suicide of a young friend, about a year before her illness, but recovered from it sooner than had been anticipated. The friends could see no connection between this and her subsequent illness, but the author thought it was not improbable that the shock sustained at that time was the remote cause. As to the treatment; he at first feared melancholia or mania, and hysteric symptoms were also present, but he felt hopeful as to the issue of the case, as the patient was originally of a strong intellect, and of a cheerful disposition of mind, and from time to time there were signs of improvement. After the catalepsy set in, the head especially was attended to, and blisters, followed by turpentine enemata, valerian, valerianate of zinc, aloes, musk, cod-liver oil, etc., and, subsequently, the inunction of olive oil, were had recourse to. Electricity, gradually increased in strength, was tried, and after a time one wire was placed over the epigastrium, while the other was applied below the knee. Strong contractions of the abdominal muscles followed, the face was flushed, and the head raised from the pillow, while she cried out "Stop, stop." He was of opinion that she was rather injured than otherwise by the use of the galvanism, and the morning activity certainly lessened. Chloroform was administered on one or two occasions; she slept after it with her mouth more open than usual.

In the present case he was inclined to believe that there was slight organic disease of the brain, the result of the nervous shock which had been sustained, and which in another individual might probably have produced monomania. A remarkable circumstance was the absence of any lengthened remissions, which made the case differ from the other cases on record. He could not regard the malady as feigned, as no motive was discoverable for the production of the symptoms.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 37.—*On Paracentesis Thoracic in Pleuritic Effusion.* By (1) Dr. BOWDITCH, Physician to the Massachusetts General Hospital; and (2) Dr. TRACY, of Hollis (U. S.)

(1) *American Medical Monthly*, Jan and Feb., 1854; (2) *New York Journal of Medicine*, Nov., 1853.

1. Dr. Bowditch's communication, which is a continuation of a former paper on the subject (*v. 'Abstract,' vol. xvi, p. 316*), is an analysis of 25 cases, in which he either operated himself or saw others operate.

In his former paper eight of these cases are narrated, and certain practical results arrived at, which are expressed in the following words:

"I shall puncture the chest; *first*—whenever, either in an acute or chronic case, I find a pleural cavity *distended* or *filled* with fluid;

second—whenever, in any *acute* case, remedies seem to have but little effect towards causing an absorption of the fluid, and after a fair trial has been made of them for two, three, or four weeks; *third*—I shall puncture in cases of larger effusion, complicated with organic disease, in the hope of relieving urgent dyspnœa or to lengthen life.”

Now Dr. Bowditch says—

“I would not wait so long as ‘three or four weeks’ in acute attacks, provided I found that the effusion continued steadily to augment in spite of remedies. Moreover, if called in an acute case that has lasted a month, and in which there is an amount of fluid effused, sufficient to materially compress the lung, I shall advise a puncture, as the *first* step to be taken, previously to the use of the remedies commonly employed in pleuritic effusions.”

The 25 cases are numbered chronologically, and classed in four main divisions, according to the effect of the operation.

First class, or those cases in which the operation has been the chief or sole cause of the cure of the pleuritic effusion. Cases 1, 7, 8, 11, 12, 14, 15, 18, 20, 21 (total, 10), are of this class.

Second class, or those cases in which the puncture has given more or less, and at times very great, temporary relief, so that some of the patients have asked for the operation a second, third, or fourth time, for the sole object of getting relief. Cases 2, 3, 4, 9, 10, 13, 16, 17, 19 (total, 9), are of this class.

Third class, or those in which no relief was obtained, because no fluid could be removed. Cases 5, 6, and 25 (total, 3), are of this class.

Fourth class, or those still under treatment, which are progressing favorably, with more or less rapidity. Cases 22, 23, 24 (total, 3), are of this class.

The cases subjoined belong respectively to the first and second classes. They are taken indiscriminately and without any selection.

CASE 15.—June 10th, 1853. Mrs. B—, I saw at E. Boston, with Dr. —; æt. 45. She was the mother of a large family, which she had usually superintended until her illness; but she had been considered tuberculous, and for months had used cod-liver oil, under which, previously to her actual attack, she had been tolerably well. For three months before I saw her, she had felt not quite so well. Six weeks previously she had had an acute pain in the right side; but it did not prevent her from going about the house. Three weeks before the operation, she went to church all day. While dressing for this purpose, she was surprised to find that her gown was too tight, and she had some dyspnœa. She, however, continued at work for a few days, when, owing to an increase of the symptoms, she was compelled to desist; she lost her appetite; the cough became dry and hard; the dyspnœa was extreme, so that at length she could not get up into her chamber, and fits of suffocation occurred, threatening death.

I found her with an anxious, very livid countenance, in bed, half erect, pulse 115. Respiration much laboured. On percussion, the right side was flat everywhere, except at the apex behind. Respiration scarcely heard, even under the clavicle; bronchial for a small space along the vertebræ from top to bottom, absent elsewhere. Puerile through the whole of the left.

I punctured between the eighth and ninth ribs behind, and drew eighty-three and three fourths ounces of yellow serum. The patient experienced the

greatest possible relief, and suffered scarcely at all, except at the last of the operation she had some stricture across the chest, and the cough was a little troublesome. The sounds on percussion *instantly* became more clear, to the point of puncture. The bronchial respiration was replaced by the vesicular. Crackling was heard throughout the right breast, evidently from the expanding lung. The pulse fell to 108, and she was able to lie on the left side, in a position which nearly suffocated her only twenty minutes before the operation. She was allowed broth and wine. During the next twenty-four hours, she coughed much and raised nearly a quart of frothy, white fluid.

I saw her, p.m., June 11th, and found her quiet, with much more easy breathing; she was much less livid; she relished her broth and wine.

From this time, she steadily progressed, the lung expanded rapidly, as marked by râles that were heard everywhere in it. The little fluid that remained in the pleural cavity was soon absorbed; the urine was much increased. The œdema of the legs, that existed before the operation, was wholly gone by the 20th (ten days after operation); the lividity of the skin had subsided. The appetite and digestive functions improved, and were excellent at the above date; no dyspnœa; pulse 84, quiet; little cough; only felt weak. On percussion (20th), tenth day from puncture, there was only a difference of pitch between the two sides—no real dullness. Vesicular murmur was heard in every part, only a little less at the right than at the left, with a dry crackle at the top on coughing.

Sept. 23d. I found she had been going on well, though she was still feeble; scarcely any cough; digestion excellent; slight feeling as of pain or obstruction in the right side on full breath; was able to superintend her domestic affairs; she visited me at my office. On percussion, less sound at the *left* than the *right* top, and the voice was more resonant there; and I thought I heard, at times on coughing, a slight crackle there. Murmur obscure at the right apex. *Equal and clear in both lower lobes.* In other words, the signs were those of the previous chronic disease, the acute pleurisy having left little or no trace of its existence. Ordered to resume cod-liver oil.

CASE 16.—Mr. H—, entered Massachussets General Hospital, May 28th, 1853. Sick three months only; he first noticed a cough, which came on after an exposure to wet and cold—no hæmoptysis. He was very ill at his entrance into the hospital, and continued to grow worse, with signs of disease in both cavities of the thorax. Dullness on percussion was observed in the lower part of both backs; the respiration was rude and bronchial at the left; mucous and sonorous râles everywhere. He was supposed to have pleurisy of both sides, and disease of the lungs, probably tuberculous. On 11th of July, the report by Dr. Storer was as follows: "Has been gradually failing during the last week; greater dyspnœa; at each visit bathed in cold sweat; countenance haggard, although he constantly reports himself as comfortable; pulse usually was 120." On this day I operated, at the request of Dr. Storer, between the ninth and tenth ribs, and drew off twenty-three ounces of highly-coloured serum. On the subsequent day the record was—"Comfortable day and night; respiration less laboured; pulse 110; countenance more tranquil." He continued improving until the 17th, when the dyspnœa was augmented. He afterwards grew worse; and Aug. 5th, I punctured anew, and drew off thirteen ounces of coloured serum. Little relief ensued, and he soon afterwards left the hospital to die.

The conclusion from the clinical evidence is,—

"First, No one of the patients operated on experienced a single dangerous symptom, or any materially unpleasant symptom, except for a short period.

"Secondly, Out of twenty-five persons, only three failed of obtaining relief. Of these three, two had had pulmonary (probably tubercular) disease; and from the other no fluid could be drawn, owing, perhaps, to an imperfection of the instrument which I used in my earlier operations.

"Thirdly, In more than half of the cases, the puncture was the first remedial agent that decidedly arrested the progress of the disease. This it did in two modes. 1st, by allowing the lung to expand immediately, and producing thereby a rapid cure. 2d, by so stimulating the functions of the body, made torpid by long disease, that they immediately sprang into healthful, vigorous action, while the lung expanded more slowly.

"That this stimulus which I have mentioned as occurring in the second class, actually takes place in many cases, I am sure. I have so repeatedly noticed it that I now confidently hope for its occurrence, when I do not find that a case, after a puncture, is likely to be of the first class. I do not mean to state that the stimulus shows itself immediately, or that it acts with rapidity in every case, but simply that from the moment of drawing off the fluid, I have been able to trace a series of favorable influences tending towards health.

"Fourthly, In about *seven-eighths* of the cases, the operation has given *great relief* to prominent and distressing symptoms, insomuch that the patients have asked for a second, third, or fourth puncture, as a means of relief only.

The symptoms consequent upon the puncture were very similar to those reported in my former paper. The pain of the puncture was the chief trouble, and this, as it was momentary, was but little noticed by the majority. Stricture across the chest was occasionally noticed towards the end of the operation. The cough was augmented in many. This I regarded as a favorable sign, as it usually indicates that the compressed lung is beginning to expand. In one case this symptom was excessive, it having lasted twenty-four hours almost without intermission. In this case the lung arose instantly from its compression. One had vomiting of her dinner, the operation having been done in the afternoon. In all, where fluid was obtained, the oppression was somewhat relieved; in one, impending suffocation was prevented. Most of the patients were exhilarated by the success of the operation, as in our previous set of cases. In one, there was a slight oozing of blood from the point of puncture, which, however, was easily checked.

"The *pulse* remained tranquil, as much as it was before the operation.

"The *digestive* functions were improved. In all, where much fluid was obtained, the appetite was improved with singular rapidity. One person asked for food before we left the house.

"The *urine* was augmented frequently by the operation, a fact which I noticed often when analysing the first set of cases.

"In *none* was the fever augmented, or a febrile paroxysm excited.

"The physical signs altered slowly in some cases, in others very rapidly. The patient in case 15, having been ill a few weeks, presented the phenomenon of the lung completely expanded and filled with râles the next day after the removal of five pints of fluid. Generally, however, a more slow process was carried on, the lung

expanding in the first few hours only along the vertebræ and at the apex, and thence more or less gradually rising to meet the parietes of the chest; the parts under the axilla being, of course, the last to fill out. In some instances, that state of the lung described by Dr. Gairdner, remained for months, the patients being nearly free from all rational symptoms of disease, save, perhaps, a tendency to dyspnœa."

The character of the fluid drawn from the chest varied. By a reference to the tabular statement, it will be seen that from forty-seven punctures, the following results were obtained:—

TABLE 2.

| | |
|--|----------|
| Nothing, | 5 times. |
| Serum, a few drops only (2 cases), | 4 „ |
| Serum in large quantities, | 16 „ |
| Pus, or purulent, | 17 „ |
| Bloody, | 5 „ |

The *quantity* of the fluid varied considerably; three ounces being the smallest, one hundred and seventy ounces being the largest. In this latter case it was pure pus.

The influence of the character of the fluid, the length of the disease previous to the operation, and the existence or non-existence of previous disease, may be learned by the following series of tables.

TABLE 3.

| Character of the Fluid in the Chest. | Serum. | Pus. | Bloody. | Total. |
|---|----------|----------|---------|-----------|
| Recovery from pleuritic effusion | 7 cases, | 5 cases, | 1 case, | 13 cases. |
| Death afterwards, consequent upon the effusion and previous disease | 3 „ | 4 „ | | 7 „ |
| Friction-sound heard, but death a few weeks after from disease of brain | 1 „ | . | . | 1 „ |
| Under treatment, doing well | 1 „ | . | . | 1 „ |
| Under treatment, with prospect of months of illness | . | 2 „ | . | 2 „ |
| | | | | — |
| | | | | 24 cases. |

"It seems, therefore, that the presence of serum is more favorable for the prognosis than is the existence of pus. This only confirms our preconceived notions, but it is rather different from the opinion I advanced in my previous paper, the facts contained therein not allowing me to hold the opinion I now advance."

The next important element in the prognosis, is the length of time the disease has lasted previous to the operation. The following table will show this:—

TABLE 4.

| | Serum. | Pus. | Bloody. |
|--|------------|-----------|-----------|
| Average time before puncturing in } recovery | 2½ months, | 2 months, | |
| cases of } death | 3 „ | 4½ „ | 3 months. |

Whence it appears that whether pus or serum exists, an early operation is more favorable than a later one.

The influence of the existence or non-existence of previous disease may be illustrated by the following :—

TABLE 5.

| | no disease immediately preceding the effusion. | Of those who had cough, and were probably phthisical. |
|--|--|---|
| Recovered from the effusion | 10 | 4 |
| Died with effusion remaining | 0 | 6 |

“From this table we infer, what, in fact, we knew before, that pleuritic effusions, uncombined with serious pulmonary disease, do not usually destroy life. I cannot but think, however, that in case No. 2 the operation may be said to have saved life, for a time, at least. In case 15 I have no doubt suffocation would have taken place, had not the operation been performed.

“Another interesting inference is suggested by this table, viz., we observe that of 10 who had organic diseases, 4 were cured of the pleuritic effusion: 6 died. Now, the puncture was the *sole* cause of the cure of these four, for the lung expanded in all of them within twenty-four hours or a few days after the operation was done. No other cause operated, and therefore to the thoracentesis we must attribute the cure. Is there any physician that can say as much of any other method of cure under similar circumstances? Is there any remedy which will cause an absorption of five pints of fluid in twelve hours, and allow a lung that has been compressed for months to be thoroughly filled with air in twenty-four hours?

“In confirmation of these remarks, and to give the reader a more definite idea of the *amount* of influence the puncture had towards the *cure* or *relief* of the effusions, I submit the following data taken from my own cases, compared with similar data obtained by the courtesy of Mr. Scarem, at present house-pupil of the Massachusetts General Hospital, from the records of that institution. In preparing my own, I have taken, *first*, all those cases in which the lung, after having been for weeks, or perhaps for months compressed, has suddenly expanded, within twelve or twenty-four hours after the puncture; *second*, those in which the stimulus above spoken of was given to the various functions of the body, so that all the rational signs grew decidedly better from the moment the fluid was evacuated, while the long-compressed lung dilated but slowly.

“In the first, the lung expanded immediately, or within twelve hours after the puncture. In the second, the lung, on average, in 32½ days, or 4½ weeks after the puncture.

“I think no one can doubt that paracentesis *cured* the disease in the first class of cases. In proof that it aided very materially toward the same results in the second class, I present the subjoined table of comparison between my cases and those treated at the hospital.*

* This table is founded on data drawn from fifty-four cases of pleuritic effusion, found recorded in the books of the hospital, between Jan. 4, 1847, and Sept. 9, 1853. In it I have made use of those cases only, in which the disease could be traced by the rational and physical signs to its termination in the hospital; or, if the patient left the hospital

TABLE 6.

| Length of time the disease lasted. | HOSPITAL CASES. | | MY CASES. | |
|---|------------------------------|--------------------------|------------------------------|----------------------|
| | Whole length of the disease. | After entering hospital. | Whole length of the disease. | After Thoracentesis. |
| Average duration in cases of complete filling of one pleural cavity . . . | 12+ weeks. | $6\frac{5}{8}$ + weeks. | 13 weeks. | 3 weeks. |
| do. do. partial do. do. 12 | „ | $6\frac{1}{2}$ „ | $9\frac{1}{2}$ „ | 4 „ |

“Supposing all these data to be *absolutely* correct, I might draw from them the following propositions:—

“1st. *One pleural cavity being full of fluid.*—a. Thoracentesis shortens the disease more than *one half*.

“2d. *One pleural cavity being partially filled.*—b. Thoracentesis shortens the disease more than *one third*.

“I do not, however, present them as absolutely correct, but merely as approximations to the truth. But I do not see that any one can deny, that puncturing the chest does very materially shorten, and consequently alleviate the sufferings of a patient affected with pleuritic effusion. As if in confirmation of this view, we see that although it appears, in my cases of complete filling of the pleural cavity, that the whole duration of the disease was perhaps as long as it was in the hospital cases, nevertheless there was this great difference of time after the two treatments were commenced, before the effusion was removed; viz., those treated by paracentesis getting well in half the time required by the hospital treatment. I do not believe, however, that thirteen weeks shows the duration of the disease as it will be when tapping is resorted to with as much freedom as we resort to calomel, blistering, &c. For this period of thirteen weeks is really owing to one case, which had lasted *seven months* before a puncture was made. Excluding this case from the calculation, we shall get $7\frac{3}{4}$ weeks as the average total duration of cases of pleurisy treated by paracentesis, in connection with other remedies. I will go still farther, and avow my belief that ere long, when we shall puncture *early* after an effusion has occurred, the disease will often be relieved in a much shorter time even than $7\frac{1}{2}$ weeks.”

Dr. Bowditch is in favour of medicated injections after the operation. He thinks the recent observations and experiments of MM. Boinet and Aran, in Paris, prove conclusively, not merely the safety but the advantage, in some instances, of injections of tr. of iodine.

The paper concludes with a quotation from a letter to Dr. Bowditch “from a gentleman well known in this country and in Europe, and who has had as much experience on this subject as any other individual on either side of the Atlantic.” Under the date of June 2d, 1852, this gentleman writes, “It has indeed surprised us as well as yourself, that so simple, so harmless, and so beneficial an operation

before recovery, but after a *long* residence at the institution, I have added the sign + to the number of months the case was under the care of the institution. From my own cases, I have only taken those of a similar character, viz. Nos. 1, 7, 8, 11, 12, 15, 18, 20, 21.

(when proper precautions are taken, by competent observers), has been so little regarded in America or England, where it most strangely continues to be esteemed as a most important and serious one." "It may be interesting to you to know that I have myself been present at, directed, or superintended, at least eighty, and, I quite believe, one hundred operations of paracentesis thoracis" [by puncture with an exploring trocar and the subsequent introduction of a larger one, and without the use of any suction pump], "and I never knew it, in any of those cases, do any injury; that in a vast majority of these instances, it has been attended with marked benefit; and that in many, where a cure was possible, it has been the important element in effecting that cure."

2. Mr. Tracy relates the case of a child *æt.* 7, in which paracentesis thoracis was performed for pleuritic effusion with the most beneficial results. He says :

I was first called to see this patient on the 26th of June, 1853, and was told by the mother that he had enjoyed good health until about three months previously, when he caught cold by going into a pond, and since then had been troubled with dyspnœa, and pain in the left side, and had gradually been declining.

I found him in the following condition : habit scrofulous, emaciation great, anorexia, pain in left side, and most marked on full inspiration, dyspnœa, pulse 120, tongue coated. Examination of the chest gave the following signs : dulness over entire left lung, and increased resonance over right ; absence of all respiratory sound on the left side, and puerile respiration on the right ; point of the heart's impulse full two inches to the right of the mesian line ; bulging of left intercostal spaces.

July 2d.—I was called in haste, and found the patient labouring under urgent dyspnœa, and speechless. The pulse was very weak, and, according to the nurse, it was imperceptible at the wrist an hour previously. Under the free use of stimulants, and the application to the chest of camphor and ether, he gradually revived.

July 3d.—From this date till the 7th, the patient lay on his back, inclining to the left side, with head raised, and nostrils wildly dilated. The gravity and urgency of the symptoms continued, and he was evidently sinking every hour.

July 7th.—This morning chloroform having been administered, the operation of puncturing the thorax was performed by Dr. Graves, Dr. Lyford and myself being present. An incision was made with the scalpel between the 6th and 7th ribs, and a trocar introduced, through the canula of which a quart of straw-coloured serum escaped ; and, at each inspiration, air freely entered the wound. On withdrawing the instrument, adhesive plaster with a binder was applied. In the afternoon I saw the patient again, and found his dyspnœa relieved, and his pulse at 110. He said, "I feel much better, and I can breathe easier."

July 8th.—Continues to improve, and amuses himself with his playthings ; pulse 120, and tongue less coated ; a blister was applied to the side.

July 9th.—Tongue clean and moist, pulse 120, steady.

July 15th.—Pulse 115, tongue clean, appetite good, heart gradually returning to its proper place, and bronchial respiration can be heard in the left lung.

July 22d.—The patient has gradually gained strength and flesh, and now

walks out. The left side measures half an inch less in circumference than the right, and the respiratory sounds in the left lung are distinctly audible, though faint. He has no cough or dyspnœa, and his appetite is good. There is air yet in the pleural cavity; the position of the heart is nearly natural.

Aug. 1st.—Gains flesh rapidly, pulse 100, the heart in its natural situation, and the function of the lung restored.

ART. 38.—*Case of Alternate Apnœa and Accelerated Breathing.*

By Dr. SIBSON, Physician to St. Mary's Hospital.

(*Lancet*, March 18, 1854.)

The following interesting case was related at a recent meeting of the Harveian Society.

CASE.—The patient, æt. 74, was admitted into St. Mary's Hospital on the 20th of January. Excepting rheumatism and a slight winter cough, he enjoyed good health until nine months previously, since which period he had suffered from cough and dyspnœa; he did not leave off work until six weeks before admission, when his legs began to swell. Within the month he had three attacks of sudden insensibility, in which he fell to the ground, remaining unconscious from a few minutes to half an hour. On admission, legs much swollen, from œdema; urine albuminous; veins of neck and temples swollen, diminishing somewhat on inspiration; heart's impulse feeble, just perceptible; liver low; breathing, vocal vibration, and resonance on percussion better over right dorsum than left. The respirations varied remarkably in depth. After a pause of about five seconds they gradually increased from three or four hundredths of an inch to from forty to seventy-five hundredths, and then decreased steadily until there was a renewed pause of about five seconds. The respirations increased, diminished, and came to a stand still in renewed succession with remarkable regularity, the pauses succeeding each other at intervals of about a minute. On the 26th the pauses recurred in about sixty seconds; they varied in duration from six to twenty seconds; the idea being sometimes conveyed that he had actually ceased to breathe; there were from twenty to twenty-four respirations between the pauses. The pulse was more quick and regular during the pause, being then thirty-two in twenty seconds, than during the period of accelerated breathing, when it was twenty-five in 203, the pulse being strong during the expiration, intermittent during the deep inspirations. This character of respiration continued during the whole of the time that he was in St. Mary's Hospital, from the 21st of January to the 3d of March, when he died. On the 13th of February the mouth was opened at each inspiration, the upper jaw being raised by a slight action of the muscles at the back of the neck, which lower the occiput. During the pause the eyes nearly closed, and he became unconscious. From this date he gradually declined; his mind wandered; his strength diminished. The deeper respirations became less full, rising only to twenty or twenty-five hundredths of an inch instead of forty, fifty, or even eighty. On the 21st of February there was an interval of seventy seconds between the beginning of one pause and that of the next, each pause lasting about fifteen seconds, and the number of intermediate respirations being from twenty-six to twenty-eight. On the 28th of February the right ninth rib moved outwards, during the deep inspiration, the fifteen-hundredth of an inch, while the left ninth fell in fifteen-hundredth. There was fluid in the abdomen, and great œdema

of the lower limbs. On the 1st and 2d of March the intervals from pause to pause were forty to forty-five seconds; the number of intermediate respirations twenty to twenty-two. A soft systolic bruit to the left of the nipple was audible during the whole period that the patient was under observation until the last day or two, when it was no longer audible. The temporal arteries were constantly full during the last few days of life.

On post-mortem examination the heart was found to be greatly enlarged, the walls being thickened, the cavities dilated; the left ventricular walls were nearly an inch in thickness; the mitral and aortic valves were somewhat thickened and atheromatous, but appeared as if they would prove nearly adequate to their function; the aorta in its whole length was much dilated, and was studded with atheromatous and calculous patches of various size and thickness. The arteries at the base of the brain were atheromatous. There was much fluid in both pleural sacs, particularly the left; the left lower lobe being almost completely condensed by the fluid in which it floated. The bronchial tubes were dilated and congested, and the pulmonary artery and its branches were large. Brain healthy; subarachnoid effusion. The kidneys were hard, small and granular. There was a calculus in the pelvis of one kidney.

The state of respiration in this case closely resembled that in a case of fatty degeneration of the heart described by Dr. Cheyne:—"The only peculiarity in the last period of his illness, which lasted only eight or nine days, was in the state of the respiration. For several days his breathing was irregular; it would entirely cease for a quarter of a minute, then it would become perceptible, though very low, then by degrees it became heaving and quick, and then it would gradually cease again. This revolution in the state of his breathing occupied about a minute, during which there were about thirty acts of respiration." Dr. Stokes, who quotes this case, states that this symptom may be looked for in many cases of fatty degeneration. The patient may remain for such a length of time in a state of apparent apnoea "as to make his attendants believe that he is dead, when a low inspiration, followed by one more decided, marks the commencement of a new ascending and then descending series of inspirations. This symptom, as occurring in the highest degree, I have only seen during a few weeks previous to the death of the patient." In Dr. Sibson's case this remarkable symptom lasted during the whole period that the patient was in the hospital—from the 13th of January to the 3d of March, when he died.

ART. 39.—*Observations upon Gangrene of the Lung, treated successfully by Turpentine Inhalations.* By Dr. SKODA.

(*Medical Times and Gazette*, April 15, 1853; and *Zeitsc. für K. K. Geselsc. der Aertze zu Wien*, 1853, t. ix, p. 445.)

Four cases of gangrene of the lung have been treated by Professor Skoda in the following manner:—The essence of turpentine is poured upon boiling water, and the patient is directed to inhale the vapour for fifteen minutes every two hours. Sulphate of quinine is administered also in the usual doses. The first case was that of a servant affected with limited gangrene of the superior lobe of the right lung. After six weeks of this treatment, it became impossible to detect either infiltration or gangrene of the organ. On the contrary, the

respiratory murmur had returned over the whole region. Three months afterwards the patient was seen in good health.

In the second case, an innkeeper of mature age and strong constitution, became the subject of a gangrenous cavity in the lower lobe of the right lung, consequent upon disease commencing March 11th, 1852. On March 21st, the patient commenced the inhalations of the vapour of turpentine: he continued, without repugnance, for five or ten minutes every two hours, taking, at the same time, the usual doses of quinine.

At the end of three weeks, the expectoration, which had been extremely abundant (a pint and a half daily), became reduced to a quarter of a pint. The inspirations had been employed four times a day. At the end of six weeks, the patient could quit his bed. His strength was returning, the appetite was improved, and his general aspect favorable; but the expectoration continued to be fetid from time to time, and was always sanious. The right side of the chest was painful, and respiration laboured, but the air entered the circumference of the lower lobe; the respiration being uncertain and accompanied by feeble râles and sibilance. The patient went into the country, where he continued the turpentine inspirations twice a day up to the middle of July, when both cough and expectoration had entirely disappeared.

In the month of December, 1852, he came to M. Skoda for a certificate of health. There was no pain, nor oppression, nor cough. He had recovered his *embonpoint* and his strength; there was no retraction of the thorax; vesicular respiration everywhere.

In the third case it was not in the Professor's power to persist in the plan. The fourth case is still under treatment. A butcher, of strong constitution, had a gangrenous cavity in the inferior lobe of the left lung. He fell ill about the end of May, 1852. The inspirations of turpentine were commenced June 4th. At the end of a week, the fetid expectoration, which daily equalled two pints, had entirely disappeared, and the patient considered himself well, because the pain and the oppression in breathing had diminished, the appetite was returned, and the sleep was tranquil. He therefore left off inhaling the turpentine, which was extremely disagreeable to him.

On June 19th there came on a severe shivering fit, with cough and dyspnoea, and during the following night the patient expectorated several pints of extremely fetid sanies of dirty brown colour. The inspirations were recommended, but the patient used them as little as possible, on account of the irritation which they produced in the air-passages. In eight days the quantity of matter brought up had greatly diminished, and the pulse was normal, but there was pain in the chest. The patient lay immoveable upon his back in a state of great weakness and prostration; there was no appetite. The lower lobe of the left lung was impervious to air. The inspirations were again suspended, but again recommenced on account of recurrence of the bad symptoms; the disagreeable odour of the turpentine being partly rectified by a few drops of the essence of rose. About the middle of October he was able to go into the country, having recovered strength sufficient to leave his bed; nevertheless there

remained a sense of oppression and pain under the left scapula. At the end of January he considered himself well. There was a sudden expectoration of two ounces of blood, after a slight fit of coughing, on February 10th, probably proceeding from the callous walls of a former gangrenous cavity; but there are no signs of further infiltration, and the case seems likely to terminate well.

(C.) CONCERNING THE CIRCULATORY SYSTEM.

ART. 40.—*The Diagnosis of Functional Affections of the Heart.*

By Dr. CORSON, Physician to the New York Dispensary.

(Pamphlet, New York, 1854.)

Among much useful and interesting matter is the following table:—

In Functional Heart Affections:

Præcordial dulness on percussion is not permanently *extended*, nor the *apex displaced*.

The *impulse* in *plethora* is strong *bounding*; in *irritation*, smart *knocking*; in both, widely *jarring*; in *debility*, small, soft *tapping*, sometimes *hurried*.

The whole *movement* of the heart is more *elastic*, *light*, or *easy*.

Functional murmurs are soft *blowing*, *aortic* and *systolic*; are from *anæmia*, and usually with the venous hum in the neck.

Functional is more *paroxysmal*.

Active exercise is often well borne, and benefits.

The *causes* are mainly *dyspepsia*, *anæmia*, *plethora*, *nervous* or *generative disease*.

In Organic Heart Disease:

Præcordial dulness in enlargement is permanently *extended*, and the *apex crowded* to the left.

The *impulse* in *hypertrophy* is strong, broad *heaving*; in *dilatation*, weak, wide *flapping*; in both together, strong, large *bulging*; in all with *extended dulness*.

The whole *movement* of the heart is more *dead*, *clumsy*, or *laboured*.

Organic murmurs are *harsher*, *louder*, often *grating*, *aortic* or *mitral*, *systolic* or *diastolic*, or both, and very rarely with *anæmia* or venous hum.

Organic is more *uniform*.

Active exercise always *aggravates*.

The most common *causes* are, first, *rheumatism*; and next, *Bright's disease*.

ART. 41.—*A case of Angina Pectoris, resulting from the Use of Tobacco.* By Dr. CORSON, Physician to the New York Dispensary.

(Pamphlet, New York, 1854.)

The following case possesses a very high degree of interest:—A highly intelligent man, aged sixty-five, stout, ruddy, early married, temperate, managing actively a large business, after premising that he commenced chewing tobacco at seventeen, swallowing the juice, as is sometimes customary, "to prevent injuring his lungs from constant spitting,"—and that years after he suffered from a gnawing, capricious appetite, nausea, vomiting of meals, emaciation, nervousness, and

palpitation of the heart, dictated to Dr. Corson, recently, the following story :

"Seven years thus miserably passed, when, one day after dinner, I was suddenly seized with intense pain in the chest, gasping for breath, and a sensation as if *a crowbar were pressed tightly from the right breast to the left, till it came and twisted in a knot round the heart, which now stopped deathly still for a minute, and then leaped like a dozen frogs*. After two hours of death-like suffering, the attack ceased, and I found that ever after my heart *missed every fourth beat*. My physician said that I had organic disease of the heart, must die suddenly—and need only take a little brandy for the painful paroxysms, and I soon found it the only thing that gave them any relief. For the next twenty-seven years I continued to suffer milder attacks like the above, lasting from one to several minutes, sometimes as often as two or three times a day or night ; and to be sickly-looking, thin, and pale as a ghost. Simply from revolting at the idea of being a slave to *one vile habit alone*, and without dreaming of the suffering it had cost me, after *thirty-three years' use*, I one day threw away tobacco for ever. Words cannot describe my suffering and desire for a time. I was reminded of the Indian, who, next to all the rum in the world, wanted all the tobacco. But my firm will conquered. In a month my paroxysms nearly ceased, and soon after left entirely. I was directly a new man, and grew stout and hale, as you see. With the exception of a little asthmatic breathing, in close rooms and the like, for nearly twenty years since I have enjoyed excellent health."

On examination, Dr. Corson found the heart seemingly healthy in size and structure, only *irregular*, intermitting still at every fourth pulsation.

ART. 42.—*On the Characters by which Pericardial Friction Sounds are distinguished from Valvular Murmurs.* By Dr. BELLINGHAM.

(*Dublin Medical Press*, Jan. 4, 1854.)

The attrition sounds of pericarditis have been, and are still, by inexperienced auscultators, sometimes mistaken for, or confounded with, valvular murmurs. In the great majority of cases, however, the distinctive characters of the two classes of sound are well marked and quite characteristic. We are therefore somewhat surprised at M. Skoda's assertion, that he knows no sign by which the friction sounds of the pericardium can be distinguished from the internal murmurs of the heart, excepting this, that the internal murmurs correspond pretty exactly to the rhythm and to the natural sounds of the heart ; whilst the pericardial friction sounds seem to follow upon the movements of the heart. This distinctive sign is only available when the murmur is somewhat prolonged ; if it be of short duration, we cannot determine whether it is endocardial or pericardial.

Some difficulty might certainly be experienced in making the diagnosis, if the heart's action was exceedingly feeble ; if the pericarditis was complicated with pleuritis, or bronchitis with loud bronchial râles ; if the subject was an infant, or dyspnœa was so extreme that a

proper examination could not be made. These, however, are exceptional cases; when attrition sounds are present, they may always, in my mind, be distinguished from valvular murmurs by attention to the following rules:

1. Attrition sounds, as a general rule, give a sensation of friction or rubbing, and are usually rough, grating, or creaking, never blowing. Valvular murmurs, on the other hand, are usually blowing.

2. Attrition sounds are usually double, and the second sound is loudest at the same part of the chest as the first. Valvular murmurs, on the other hand, are usually single; and when double, the point at which each is best marked is different.

3. Attrition sounds are generally loudest over the middle of the sternum or immediately above the nipple. Valvular murmurs, on the other hand, are often loudest about or below the apex of the heart.

4. Attrition sounds are not audible in the course of the large vessels which come off from the aorta, nor are they heard in general much beyond the precordial region, in both which situations valvular murmurs are frequently audible.

5. Attrition sounds give the impression of being more superficial and near than valvular murmurs, and are often accompanied by a fremitus, perceptible to the hand laid on the precordial region.

6. Attrition sounds are sometimes audible only in the erect or sitting posture, or are developed or increased in intensity when the patient leans forward, or when pressure is made with the stethoscope. Valvular murmurs, on the other hand, usually present the same characters in every position of the patient, and are not influenced by pressure upon the precordial region.

7. Attrition sounds are usually of short duration, vary in intensity at the same part of the chest at short intervals, disappear under treatment, or subside altogether within a limited period. Valvular murmurs, on the other hand, present the same characters at the same part of the chest for a lengthened period, do not disappear readily under treatment, and seldom subside altogether.

8. Attrition sounds may obscure, but they do not interfere with the intrinsic sounds of the heart. Valvular murmurs, on the other hand, either replace the normal sounds, or prevent them from being heard.

ART. 43.—*Notes on Pericarditis, Endocarditis, and Organic Disease of the Heart and Aorta, as observed chiefly in the Jamsetjee Jeejeebhoy Hospital, at Bombay.* By Dr. MOREHEAD.

(*Indian Annals of Medical Science*, Oct. 1853.)

In this memoir Dr. Morehead alludes to the impression entertained by Drs. Bird and Chevers, that acute rheumatism in India is rarely associated with pericarditis or endocarditis. He considers that we do not, as yet, possess the data which can justify a comparison between the pathology of the diseases of the natives of India, and that of the diseases of the natives of European countries, still he believes that pericarditis and endocarditis, with consequent organic heart disease, are as common accompaniments and results of acute rheumatism in

Bombay as in Europe. Dr. Morehead gives the histories of 49 cases of disease of the central vascular organs, which were observed by him during the four years ending April, 1852, among 16,746 admissions. In 17 cases, the disease was associated with acute articular rheumatism. In 16 the rheumatism was present at the period when the heart-symptoms appeared, and afterwards co-existed with them. In one case the rheumatic symptoms were not present with the cardiac symptoms, which occurred in an individual who had some years previously suffered from an attack of acute rheumatism, and in whom the diathesis, at the period of the attack of pericarditis, may be assumed to have been present. Of these 17 cases, 8 were Hindoos, 6 Parsees, 2 Christians, and a Mussulman; of their number, 6 were of pericarditis alone, 4 of endocarditis, and 7 of pericarditis and endocarditis combined. All the cases of endocarditis—simple or combined—were, with one exception, associated with rheumatism. The relation of the heart affection to previously-existing rheumatism was apparent in 27 of the 49 cases detailed, and the author believes that, in all probability, it would have been evident in a still greater number, had the records of all the cases been equally complete. Dr. Morehead considers that, in India, acute articular rheumatism may not be so common as in colder climates; yet that it is by no means an unfrequent occurrence, and that it is, therefore, as incumbent on the practitioner in India as in Europe, carefully to watch and search for the physical signs of pericarditis and endocarditis in every case of acute rheumatism.

ART. 44.—*Case of Aneurism of the Aorta Communicating Spontaneously with the Superior Cava (Spontaneous Varicose Aneurism).*
By Dr. MAYNE, Lecturer on Medicine in the Carmichael School of Medicine.

(*Dublin Quarterly Journal of Medicine*, Nov. 1853.)

The following case is of sufficient importance to be specially recorded.

Anne Flynn, æt. 50, was admitted into the hospital of the South Dublin Union, on April 22d, 1853.

She had been employed the day previously in the laborious occupation of scouring buckets, and whilst stooping for this purpose she suddenly felt as if strangled. So perfect was this illusion that for some time she could scarcely divest herself of the belief that there was a ligature around her throat. At the same moment her face exhibited a remarkable change in colour, which was immediately observed by the bystanders; her breathing became greatly embarrassed, and she felt an indescribable sense of suffocation, accompanied by an extreme degree of giddiness.

It was with difficulty that she made her way to bed, where she spent a wretched night, not venturing to lie down for a single moment, so great was her fear of suffocation.

Next morning, on seeing her for the first time, I ascertained that she was a married woman with five children; she had never suffered from syphilis, nor from rheumatism, nor had she ever taken mercury. She had been for the greater part of her life employed as a thorough servant and laundress, situations which required much bodily exertion; her health, however, had been

excellent up to her forty-fourth year, when, without any very assignable cause, she began to suffer from slight dyspnœa and palpitation of the heart on straining or making any unusual exertion, such as walking quickly, or going up stairs. She had never suffered from cough, hemoptysis, fainting fits, or epilepsy; but of late years, on two or three occasions, her breathing had become greatly oppressed, and she then experienced immediate relief from a moderate venesection.

Notwithstanding these ailments, she continued at service until about six months ago, when she was compelled, by increasing infirmity, to relinquish her employment. The stooping posture which she was obliged to assume when washing was her chief difficulty, for it invariably produced puffiness of the eyelids, a swollen condition of the face and hands, and some embarrassment of the breathing.

On seeing this woman my attention was at once arrested by her colour; it was that of cyanosis; her face was of a deep plum colour; so were her neck, her shoulders, and the upper parts of her chest. The contrast was very remarkable between these parts and the lower portion of the trunk and inferior extremities, which were pale in colour, and almost bloodless in appearance. The eyes were prominent, they appeared as if starting out of the orbits, and in both of them there was extensive sub-conjunctival œdema. The face, both sides of the neck, and the upper and anterior parts of the chest, were much swollen and puffy, so that the clavicles were fairly buried in the swelling. The swollen parts afforded upon pressure neither the pitting of anasarca nor the crackling of emphysema; to the finger they felt soft and downy, just like an emphysematous lung.

The veins of the head, the neck, the upper extremities, and the upper part of the chest, were all enormously distended, and in many instances even varicose. The superficial jugulars (particularly the right) were turgid, and as large as the index finger. In a word, *all the tributaries of the superior vena cava* were intensely congested, and all the soft parts from which these tributaries spring were swollen and discoloured, whilst *the tributaries of the inferior vena cava, and the corresponding soft parts*, were perfectly free from the slightest trace of congestion, tumefaction, or discoloration.

The arterial circulation was apparently unobstructed; in both the radial arteries, and also in both the femorals, the pulse was full, strong, and about 110 in frequency; it had, however, the jerking character usually associated with aortic valve inadequacy.

It is material to add, that this woman sat up in bed almost instinctively, for whenever she attempted to lie down for a moment her face assumed a deeper dye, and a sense of impending suffocation compelled her to resume the upright posture.

Percussion and auscultation showed that the left lung was everywhere healthy; so was the right lung *posteriorly*. In front, however, the chest sounded extensively dull on percussion; the dull region extended from the sternal third of the right clavicle *above*, to within one inch of the right nipple *below*; anteriorly it was bounded by the left margin of the sternum: the sternal extremities of the three superior right ribs, the corresponding costal cartilages, and intercostal spaces, and the upper half of the sternum, were consequently comprised in this dull region.

At the sternal extremity of the second rib, on the right side, and along the adjoining intercostal spaces to the sternum, a very remarkable, heaving impulse was communicated to the hand as well as to the stethoscope; this impulse was single and systolic; it was also plainly visible when viewed sideways, and vastly exceeded in point of strength the impulse communicated

by the apex of the heart itself. An extremely distinct *frémissement*, and a remarkably loud whirring *bruit*, accompanied this abnormal impulse. To the ear the *bruit* conveyed the sensation of being situated very superficially within the chest: it was single and systolic, and had its maximum of intensity at the costal cartilage of the second rib; there was scarcely any part of the chest, either anteriorly or posteriorly, at which this *bruit* was not plainly audible; but its intensity diminished exactly in proportion to the distance from the costal cartilage of the second rib, right side, and thus it was impossible to doubt that the organic source of the murmur was there situated.

The region of the heart afforded no abnormal dulness; the rhythm of the heart appeared natural; but the loud whirring *bruit*, above described, was transmitted over the entire præcordial region, and rendered an accurate exploration of the heart's action difficult.

In the upper and anterior portion of the right lung the respiratory murmur was absolutely inaudible, and from the right nipple to the lower margin of the chest in front it was likewise exceedingly obscure, although in that region the sound on percussion was natural. There were no *râles* audible over any part of the chest, but there was an occasional short cough, unattended with any expectoration.

Although the puffy and swollen condition of the soft parts rendered it a difficult matter to explore the deeper veins of the neck by the finger, yet by exerting a moderate amount of pressure over the course of the right subclavian and internal jugular veins, at a short distance above the clavicle, the "*purring tremor*" was plainly recognised; over the corresponding vessels at the left side of the neck this peculiar physical sign was absent.

April 23d.—The breathing appeared somewhat relieved by venesection to six ounces, practised the preceding day; the face was rather less congested; she had no sleep whatever; there was continued orthopnoea; the physical signs remained as before.

26th.—She had been repeatedly leeched upon the upper part of the chest, since the date of the previous report, and each time with decided relief to her breathing; the capillary congestion had somewhat lessened; the sub-conjunctival œdema had disappeared; the physical signs were unaltered; there was still absolute orthopnoea; the stomach now, for the first time, became irritable, it rejected all kinds of aliment, yet there was no epigastric heat or tenderness.

29th.—Her manner had suddenly changed; she was less intelligent; her answers were slow and stupid; her stomach was still irritable; she had dozed a good deal during the night, and raved incessantly. Late in the day she was seized with general convulsions; to the attendants it appeared to be an ordinary epileptic paroxysm; out of this she never rallied, and her death took place at nine o'clock in the evening.

Post-mortem Examination twelve hours after death.—*Head*: Scalp much congested and œdematous; veins of dura mater turgid; a considerable amount of serous effusion (but without any lymph) in the arachnoid sac. The veins of the cerebral hemispheres, especially in the neighbourhood of the superior longitudinal sinus, much congested. Large quantities of serum in the sub-arachnoid spaces and in the ventricles; the cerebral substance healthy, dis-closing, however, when incised, a profusion of bloody dots.

Chest and Neck.—The sub-cutaneous areolar tissue of the neck, the chest, and the upper extremities, anasarcaous; *the lower extremities perfectly free from the slightest œdema*; extreme congestion of the jugular and other veins of the neck, superficial as well as deep. The right internal jugular enlarged, so as almost to equal the small intestine in point of size, and distended with black blood. The left internal jugular, the subclavian, and the innominate veins, filled with black, firm, non-adherent coagula.

The substance of the lungs remarkably healthy; the mucous membrane lining the trachea and the bronchial tubes of both lungs very vascular, and of a vermilion hue; a small quantity of tenacious, gelatinous-looking mucus in the trachea and larger bronchi.

Heart.—A dessert-spoonful of serum in the cavity of the pericardium; heart absolutely healthy; all its chambers, its valves, and its muscular structure, perfectly normal.

Aorta.—Aorta enormously dilated; the entire arch of the aorta, and about two inches of the descending or thoracic aorta were comprised in this dilatation, which formed a vast pouch of an oblong shape, presenting at the exterior all the appearance of a huge aneurismal tumour. This pouch filled up the mediastinum, and projected considerably, to the right of the sternum, into the right pleura, where it encroached extensively upon the root of the right lung, and upon the superior intercostal spaces. From the upper part of this pouch, the innominate, the left carotid, and the left subclavian arteries, arose; to the surface of this pouch the left vena innominate and the superior vena cava adhered. The left vena innominate, crossing from left to right, was so completely identified with the diseased aorta that all attempts to separate these vessels by dissection were fruitless. Along the line of contact the coats of these vessels were so perfectly amalgamated that they constituted conjointly but a single flimsy partition between the venous and the arterial blood. The right vena innominate and the descending cava were similarly united to the right side of the aortic pouch, and here a free communication had actually been established between the aorta and the vena cava, the intermediate partition having given way.

The left vena innominate and the superior cava *had undergone a considerable diminution in caliber at those parts of their course where they adhered to the aorta*, but lower down, where the cava receives the vena azygos, and debouches in the right auricle, it regained its ordinary dimensions; thus two fingers readily entered it from the cavity of the auricle; one finger traversed it with difficulty higher up at its amalgamation with the aorta, whilst still higher up, as already described in the neck, the great tributaries of the superior cava were found enormously dilated.

On cutting into the aneurismal pouch, it was found to be formed by a true dilatation of the aorta, all the coats of that vessel being perfect, although greatly diseased and thickly studded with atheromatous deposits. A large, soft, black coagulum filled this enormous pouch: on slitting up the pouch the coagulum readily turned out, there were no *laminated* coagula whatever. The orifice of communication with the vena cava came readily into view on the removal of the coagulum; it was oval in shape, with sharp, irregular edges, very unlike what might have been expected had the aperture been one of long standing. In size and shape it resembled the button-hole of a shirt; there was, however, a delicate frenum crossing it about the centre.*

* I have found but three cases on record similar to the above. The first of these was published anonymously in the 'Lancet,' 1832-33, vol. ii, p. 666. The second, related by Dr. Law, appeared in the twenty-first volume of the 'Dublin Journal of Medical Science,' first series, p. 444. The third was published by Dr. J. Reid in the 'Edinburgh Medical and Surgical Journal,' 1840. The first and third have been quoted at length by Mr. Thurnam: Dr. Law's case will well repay perusal.

ART. 45.—Occlusion (probable) of a Cerebral Artery by a Detached Cardiac Vegetation. By (1) Prof. SIMPSON, of Edinburgh, and (2) Mr. SHAW, Surgeon to the Middlesex Hospital.

(1) *Edinburgh Monthly Journal*, March, 1854; (2) *Transactions of the Pathological Society*, vol. iv, 1853.

Professor Simpson's case was related before the Medico-Chirurgical Society of Edinburgh; Mr. Shaw's before the Pathological Society of London. The morbid specimens of the latter cases were of course exhibited to the fellows, and the subjoined comments refer to them primarily.

1. *Professor Simpson's case.*—The patient who was near her confinement, on coming home felt indisposed, and called her servant to send for her husband. Complete paralysis of the right leg, arm, face, &c., supervened. The patient was quite intelligent though she could not speak. There were no symptoms of cerebral pressure, nor was the urine albuminous. A loud valvular sound, however, was heard over the heart, and it was ascertained that she had suffered from rheumatism about a year before. A symptom was well marked in this case, to which attention had been drawn by Mr. Tufnell, viz., strong pulsation of the vessel on the cardiac side of the occlusion. On examining the two carotids, the left presented an extraordinary impulse.

2. *Mr. Shaw's cases.*—In one case the right middle cerebral artery was seen blocked up at the point of its division into its branches, by a fibrinous body, dense and wart-like, resembling the deposits so often met with on the valves of the left side of the heart. The mitral valves of the patient from whom the artery was taken, were also shown, on the free edges of which several of the same kind of deposits were formed, some of them being attached so slightly, that they were easily broken off. The middle cerebral artery was much swollen at the part where the body was impacted within it: but its coats, and those of the other vessels of the brain, were perfectly sound. The body was irregular in shape, with a smooth glistening surface, and about the size of a grain of wheat: it did not adhere to the coats; a thin, worm-like coagulum occupied an inch and a half of the proximal side of the vessel. On examining with the microscope a thin section of the body, and comparing it with a similar section of one of the warty excrescences from the mitral valve, the structure appeared identical in both. In the right side of the centrum ovale, over the anterior part of the lateral ventricle, was an oval portion of the brain, about the size of a small nut, where the colour was visibly duller than in the adjacent parts; and the tissue was so much softened, that when a section was made, the part sank and left a well-marked pit or depression. The specimens were taken from a female, aged fifty-one, who, when under treatment for fistula in ano, was attacked with hemiplegia, which came on slowly, and without the loss of consciousness; and she died in about twenty-four hours from the commencement of the attack. Mr. Shaw also exhibited a portion of heart, removed from a patient of his colleague, Dr. Crawford, in which the mitral valves were seen thickly fringed with warty deposits, some of them attached by very fine pedicles to their base. In this case, the right middle cerebral artery was completely blocked up by a little yellowish body, of the size of a grain of wheat, attached to the walls of the vessel by adhesions which were easily broken down; the coats of the artery, and those of the other vessels of the brain, were quite sound. As in the other case, the patient died with symptoms of softening of the brain; and in the anterior part of the right hemi-

sphere was a portion of the brain, of the size of a large walnut, so much softened, that it could be washed away under a stream of water.

(D.) CONCERNING THE ALIMENTARY SYSTEM.

ART. 46.—*On the Use of Ipecacuanha in certain Stomach Disorders.*
By Dr. BUDD, Physician to King's College Hospital.

(*Medical Times and Gazette*, April 15, 1854.)

Ipecacuanha increases the secretions of the stomach in a greater degree, probably, than any other medicine we possess. It increases, as is well known, the secretion of the skin, and the secretion of the mucous membrane of the air-tubes; but it increases in much greater degree, the secretion of the mucous membrane of the stomach, to which it is directly applied. An emetic dose of ipecacuanha causes a copious secretion of mucus and of gastric acid, which is rejected by vomiting. Doses too small to excite vomiting or nausea increase the secretion of the gastric juice, and in so doing render digestion quicker and stronger. Its right application, therefore, is where digestion is slow, or where, through slow and feeble digestion, nettlerash or other secondary disorders are bred.

Small doses of ipecacuanha were first recommended as a remedy in indigestion in a tract published in 1785, by a French naturalist, M. Daubenton, well known from the aid he afforded Buffon in the production of his splendid work on natural history. Daubenton was educated for medicine, but left the practice of it for his favorite study of natural history. In the tract in which he recommends small doses of ipecacuanha in indigestion, he says, "I have repeatedly experienced beneficial effects from it in my own person that surpassed my expectations, and I have prescribed it to many others, with whom it has had similar success. I consider it, therefore, a duty to publish the observations on the utility of this simple remedy, for the benefit of those persons who have delicate stomachs, and as particularly useful in that form of indigestion which is so frequently found to attend the turn of life."

Daubenton is careful in stating that the cases in which ipecacuanha is useful are where digestion is slow,—where the food lies heavy on the stomach, and there is an inability for mental or bodily exertion for some time after meals,—a kind of disorder which is, he states, especially common in men of middle age, or beyond it, who lead sedentary lives.

He believed that ipecacuanha owes its efficacy in such cases to its exciting peristaltic action in the stomach, and imparting an energy to its glands.

He recommends that it should be given in the morning fasting, and in quantity sufficient to occasion a slight feeling of vermiculating motion in the stomach, but without causing any sensation of pain or nausea. The quantity requisite to produce this effect varies, he says, in different persons from a quarter of a grain to two grains. He advises, therefore, that very small doses be given at first, which may be gradually increased till a sensible effect is produced.

In the beginning of this century an English translation of Daubenton's tract was published by Dr. H. P. Buchan, and rapidly sold.

In the preface to this translation, Dr. Buchan says: "The translator of this little tract can truly declare, that since he became acquainted with the information contained in it, his practice in the complaints here enumerated has been more successful and satisfactory than it was previously, and his sole motive for publishing the translation, which was originally made for his own private use, is to extend the knowledge of what he conceives to be a practical improvement in the art of medicine."

The medicine in this application being thus introduced to the profession in this country, was much employed for a time, and then fell into disuse, in consequence, the author believes, of its having been employed indiscriminately in various kinds of indigestion, and often, therefore, in kinds to which it is not suited, and which it would tend to aggravate rather than remedy.

It is clearly impossible that any medicine having a definite mode of action—whether it be to increase secretion or to restrain it—can be used successfully in stomach disorders, unless the various kinds of stomach disorder be distinguished, and the medicine be given only in that kind, or in those kinds, to which it is suited.

Here, as in other departments of medicine, we must rightly distinguish kindred disorders before we can learn the right use and the power of remedies.

The author has used ipecacuanha as a remedy for indigestion for several years, and he believes that there is no other medicine we know of so effectual in removing the uneasiness and sense of oppression after meals, and the various other evils that result from slow digestion.

Small doses of rhubarb, ginger, and pepper, have a similar kind of action, and may be given singly or together for the same purpose. The author generally prescribes ipecacuanha, from half a grain to a grain, in a pill, with three or four grains of rhubarb. With many a favorite remedy for the discomfort resulting from slow digestion is a grain of cayenne pepper, with three or four grains of rhubarb. The best time for giving medicines for the purpose in question is just before dinner, and before any other meal after which a sense of oppression is usually felt.

ART. 47.—*On Pyrosis.* By Dr. BUDD.

(*Medical Times and Gazette*, March 18, 1854.)

Pyrosis, considered with reference to its exciting causes, is of two kinds:—

1. That which has been termed by some writers *symptomatic pyrosis*, which is brought on (without any peculiarity in diet) by pregnancy, or some other condition that disturbs the functions of the stomach.

2. That which has been termed, in contradistinction to the former,

idiopathic pyrosis, which prevails chiefly among the agricultural poor in rural districts, and which seems, in most cases, to be mainly owing to defective diet.

Many conditions conspire to render the disorder much more frequent in women than in men. Women are much more frequently in states of debility from the nature of their constitutions and from their having in suckling and in excessive or unnatural uterine discharges, causes of exhaustion from which men are exempt; they have also more excitable nervous systems, and, in consequence, the functions of the stomach in them are more apt to be deranged by mental influences and by disease in other parts of the body; and, among the lower classes, they have generally a less nutritious diet, since the men, in order to support their more laborious work, take or have accorded to them a larger quantity of animal food and of malt liquors than is consumed by the weaker sex.

In the treatment of water-brash, our first endeavour should, of course, be to remove the conditions that may seem to have brought it on or to maintain it.

If the disorder should seem to be caused mainly by a diet not sufficiently nutritious, or consisting too much of farinaceous substances, the most effectual remedy will be a wholesome nourishing diet, containing a proper quantity of animal food *in its most digestible form*. Little permanent benefit can, indeed, be expected from medicine unless the diet is improved.

If the disorder should seem to have been induced, or to be kept up, wholly or in part, by fatigue, it is very essential that the patient should rest; if by constipation, that this condition should be removed by purgatives, such as aloes or colocynth, that do not offend the stomach.

After these points have been attended to, much further good may be done by medicines.

The medicines that have been found most useful in pyrosis are—

1st. Medicines which have an astringent action on the coats of the stomach. Among these may be classed bismuth, lime-water, and the vegetable astringents—kino, catechu, krameria, logwood.

2d. Sedatives, especially opium and the salts of morphia, which probably also tend to restrain undue secretion by the mucous membrane, but which are chiefly of use in allaying the gastralgia that attends pyrosis.

Medicines from these two classes may often be combined with advantage. Five grains of bismuth, with a twelfth of a grain of the muriate of morphia, or five grains of the compound kino powder, or an efficient dose of catechu, krameria, or logwood, with opium, may be given two or three times a day.

3d. Some other medicines have obtained repute in pyrosis which cannot be classed with the preceding. They have most of them an astringent action on the coats of the stomach, but act, directly or indirectly, on the nervous system as well.

The chief of these are, nitrate of silver, which may be given in pills, in doses of half a grain, three times a day; nux vomica, which may also be given in pill, in the dose of from three to five grains, three times a day; quinine; and the mineral acids.

Some of the medicines mentioned have been popular remedies for pyrosis in districts in which the malady has prevailed.

It is stated that *nux vomica* is a popular remedy among the Laplanders, to whom it was recommended by Linnæus, and that lime-water was some years ago a popular remedy among the rural inhabitants of North Wales.

4th. The disorder is often connected with anæmia, and steel is of great service both in removing it and in preventing its recurrence.

The medicines of which the author has had most experience in disorders of this class, and which are probably as efficacious as any, are bismuth with morphia; *krameria*, and logwood, with opium; and steel.

ART. 48.—*A Case of Chronic Functional Vomiting cured by Capsules of Sulphuric Ether.* By Dr. GALANTE, of Arpino.

(*Gazette Hebdomadaire*, Dec. 23, 1853; and *Il Feltre sebezio*, vol. xlv, p. 145.)

The particulars of this case are not very copious, but from what is related, it appears that the patient was a lady, aged 28, whose menses had been suppressed nine years previously from fright. In spite of treatment the uterine functions were not re-established for six years, and then only scantily and irregularly, the patient in the meantime becoming very dyspeptic and hysterical. At the commencement of 1853, she began to suffer pain in the epigastrium and to vomit whenever she attempted to take food; and, with only partial truces at the menstrual periods, these vomitings continued in spite of every effort to arrest them until the end of May. On the 28th of this month she began to take the ether capsules—*perles d'ether* du Dr. Clertan de Dijon—and a quarter of an hour after the first she took a cupful of chicken broth. *For the first time during several months she did not vomit.* The report then goes on to state that after six of these *perles* had been taken, the vomiting had definitively ceased, and that a month later the patient was quite well, her convalescence having been facilitated by small doses of valerianate of zinc.

ART. 49.—*Cases of Sarcina Ventriculi.* By (1) Dr. BUDD, Physician to King's College Hospital; and (2) Dr. BARNES.

(1) *Medical Times and Gazette*, Feb. 11, 1854; and (2) *Lancet*, Jan. 7, 1854.

1. *Dr. Budd's cases.*—In a clinical lecture on the subject, Dr. Budd relates three cases occurring in his own practice. With regard to the causes of the disorder, he considers "that the secretions of the stomach, which seem to be usually more abundant than natural, undergo or excite in the food in the stomach, and after they have been thrown up from it, a fermentation which is attended with the evolution of carbonic acid, and with the production of *torulæ* and *sarcinæ*, and which leads to the formation of acetic acid. The production of the disorder seems to require that there shall be some condition which prevents the stomach from completely or readily emptying itself."

CASE 1.—James Lane, æt. 44, a labourer, was admitted into King's College Hospital, on the 11th of December, 1850. As in the two cases related by Mr. Busk, his stomach disorder seemed to have resulted from an injury. He said that he had led a temperate life in the country, and that his health was good until two years before, when, while he was at work on a railroad, a large quantity of earth fell on him, throwing him with violence across some pieces of thick board which were lying immediately in front of him. He was completely buried in the earth for half an hour, at the end of which he was dug out insensible, and was found to have received some severe injuries of the head and face. Ever since that time he has had palpitation and shortness of breath on exertion, so that he has been unable to work hard; and his stomach has been disordered in the following way. As soon as he recovered from the immediate shock of the injury, he began to suffer pain at the stomach. The pain continued, and from that time he had occasional vomiting; but the vomiting did not trouble him much until the last four months, during which it had occurred, on an average, two or three times in twenty-four hours. The vomiting occurred most frequently in the evening, or at night after he had gone to bed.

On his admission to the hospital, on the 11th of December, he was thin, and much out of condition. His appetite was good, but a few minutes after every meal he had pain and a sense of burning at the pit of the stomach, soon followed by much flatulence and distension of the stomach, which continued until he vomited, when the stomach got slack, and the heartburn ceased. The matter vomited varied in quantity from a teacupful to a quart or more. It was always sour, and, after it was vomited, fermented and frothed like wort. When it had stood some hours in the vessel in which it was received, it consisted of a clear liquid, which had a brownish sediment, and was covered by a light-brownish frothy matter that looked and smelt like yeast. He stated that the stomach was usually cleared by four or five efforts of vomiting—that a clear liquid like water came first; a thicker and brownish matter last.

On microscopic examination, the brownish matter was found to contain great numbers of the yeast-fungus and sarcinæ.

Lane complained of pain at the right of the epigastrium, and was unable to lie on the right side, as this posture increased the pain and uneasiness at the stomach and the flatulence. On account of this pain, several blisters had been applied between the right mamma and the epigastrium. At a small spot under the cartilage of the tenth rib on the right side, there was constant tenderness, but no tumour could be felt there. The stomach appeared to be somewhat enlarged, and the bowels were habitually costive. It seemed probable that the diaphragm had been injured, and that the movements of the stomach were impeded by unnatural adhesions of the stomach near its pyloric end.

Lane was quite free from fever, but his nights were often restless from the uneasiness and distension of the stomach, which were usually most troublesome in the evening and at night.

He was kept on a diet of lean meat and bread, and was ordered to take two minims of creosote in pills three times a day. Under this treatment the symptoms abated; and, on the 15th of January, five weeks after he came under our notice, he left the hospital, much improved in condition, but still suffering from pain at the epigastrium, flatulence, and the occasional vomiting or eructation of a sour fermenting liquid.

Dr. Budd sent the liquid vomited on two different occasions to the laboratory of the college, and the result of the analysis was, that the first specimen contained acetic acid and a trace of hydrochloric acid, but no alcohol; the second specimen, acetic acid, but neither hydrochloric acid nor alcohol.

CASE 2.—Burraston, æt. 40, a pot cleaner at a public-house, was admitted into King's College Hospital, on the 14th of December, 1850. He was a confirmed sot, and in years gone by he had suffered from syphilis and gonorrhœa; but, with the exception of these diseases, his health seems to have been good, considering his habits, until about twelve months before his admission to the hospital, when he began to have occasional sickness, especially after drinking beer or spirits.

Six months before his admission the vomiting became more frequent; and since that time, he had sometimes vomited twice or thrice in a day. The appetite was always very good. He suffered no positive pain in the stomach, but soon after meals had a burning heat there, and the stomach became blown out with wind. The uneasy sensations continued until vomiting occurred, when they ceased, to be excited again, in greater or less degree, after the next meal. The matter vomited often amounted to a pint and a half, and sometimes to two or three pints. It usually consisted of a sour clear liquid, having a light-brownish, stringy sediment. It fermented, and after a time became covered with a brownish froth, like that on the top of fermenting wort. The brown matter, both in the sediment and at the surface of the liquid, contained abundance of *torulæ* and *sarcinæ*.

No tumour could be felt at the epigastrium, but the bowels were habitually costive, and the stomach appeared to be larger than natural.

The long duration of the malady, the habitual constipation, and the apparent enlargement of the stomach, led me to infer that the pyloric orifice of the stomach was somewhat strictured; and it seemed probable, from there being no tumour and no positive pain—from there being, in fact, no indications of cancer of the stomach, or of simple ulcer—that the cause of the stricture was that induration of the cellular tissue in the pyloric ring which spirit-drinking causes.

Burraston remained in the hospital till the 29th of March, between three and four months. During all that time he was quite free from fever; the pulse usually ranging from 56 to 80 a minute. The appetite was constantly good; sometimes more craving than natural. The condition of the stomach varied according to the remedies employed. Sometimes, although there was more or less flatulent distension and sense of burning in the stomach after meals, there was no vomiting for many days together. At other times, vomiting occurred two or three times a day. The distension and uneasiness of the stomach were usually greater, and the vomiting was more frequent in the evening and at night, than in earlier parts of the day. The matter vomited was always the same kind of glairy fluid, and was almost always acid and fermenting. On two or three occasions, however, the fluid was alkaline; and it was observed, that when such was the case, no *sarcinæ* could be found in it. The same fact was noticed in a man who was some months before in the hospital under the care of Dr. Todd.

The sleep seemed to depend mainly on the state of the stomach; being sound when the stomach was empty, and disturbed and broken when the stomach was distended and uneasy. The urine was always clear, and usually very acid. The quantity of it passed daily varied from a pint and a half to three pints and a half in twenty-four hours, and the specific gravity ranged from 1022 to 1011. The larger quantities within this range, and the lower specific gravities being by far the more common condition. The urine contained no albumen, but often exhibited under the microscope crystals of oxalate of lime. It was frequently noticed that the saliva had an acid reaction.

Creosote, nitro-muriatic acid, nux-vomica were tried without success, as

were, also, emetics—the object in giving the latter remedies being to empty the stomach completely, and so get rid of any fermenting residuum. Happening to learn that another patient had been much benefited by common salt, Dr. Budd next gave a trial to this substance, and from the 10th of March to the 19th, the patient took two tea-spoonfuls, and after the 19th two table-spoonfuls in half a pint of water, twice a day. Together with the salt he occasionally took, as before, compound aloetic pills, to regulate the bowels.

This remedy proved much more successful than any previously tried. After he had taken the large doses of salt, he had occasionally a sense of burning in the stomach, and more or less of distension; but did not vomit, and had very little nausea; and on the 29th of March, three weeks after the salt was ordered, he left the hospital much relieved.

On the 8th of October of the same year, the nurse at the hospital under whose charge he was, showed me a letter she had just received from him, in which he stated, that ever since he left the hospital he had continued to take the salt, and that for some time he had also taken habitually cascarrilla tea. His stomach disorder, he stated, was very much less troublesome than when he was in the hospital, and he attributed the amendment mainly to the salt.

CASE 3.—“In the autumn of 1851,” writes Dr. Budd, “I was consulted at my own house by a man who had suffered from this kind of stomach-disorder for ten years, and who had derived great relief from enormous doses of carbonate (bicarbonate?) of soda. He was a carpenter, 40 years of age, who lived in the country, and had always, as he stated, been of temperate habits. The stomach disorder came on without assignable cause, and slowly but gradually increased. He told me that four years before I saw him a chemist had recommended him to take carbonate of soda, and that he soon got to take enormous quantities of it; for months together as much as three-quarters of a pound a week—on his bread, and in his tea and beer—and sometimes, for a short time, as much as a pound a week. For the last four months his allowance had been a quarter of a pound a week, and he had found that a larger quantity of it gave him pain in the back. He stated that at first he derived great benefit from these large doses of soda, and that they enabled him to resume his work, which he had been obliged to discontinue before. His strength, however, had gradually declined, and when I saw him he was much emaciated, and had the look of a man with malignant disease. No tumour could be felt in the region of the stomach, but the stomach was much distended; the bowels were habitually very costive; the cutaneous veins of the belly were large; vomiting occurred frequently, sometimes as often as two or three times a day, and several times within the preceding two years he had vomited matter like coffee-grounds. His symptoms differed from those of the patients of whom I have before spoken, in the circumstance, that solid food gave him pain in the stomach, so that he had been induced to refrain almost entirely from its use.

“It seemed to me, that at the time I saw him there was ulceration of the stomach and obstruction at the pyloric orifice, the result, very probably, of slowly-growing malignant disease.

“I prescribed at first large doses of salt, but no benefit resulted from them; and I subsequently ordered, I know not with what effect, bismuth, magnesia, and opium. A week or two ago I heard of his death, which took place not long since—towards the end of 1853.”

2. *Dr. Barnes's case.*—Commenting upon this case, and upon analogous cases, Dr. Barnes is disposed to regard the sarcina as connected with some organic disease, but as yet he does not venture to express

an opinion upon the nature of this disease. The case itself is of great interest.

CASE.—“A lady of about sixty years of age had been addicted for many years to the free use of opium in different forms. For a long time together she consumed daily half an ounce of Battley’s solution, and probably often more. She was stout, and of adipose disposition, but accustomed to exercise in the open air. Her anxiety for fresh air sometimes amounted to an uncontrollable longing; her appetite was usually good; her diet consisted generally of well-seasoned dishes—at night, of bread and milk. She suffered at intervals from “bilious attacks,” which were relieved by vomiting. Of late years she had had one or two attacks in the year of an alarming character: spasms, attended by great pain in the stomach, prostration, numbness, and approach to paralysis of the right side of the body. At these times the power of speech was commonly impaired. These attacks—so severe as apparently to threaten a speedy fatal termination—gave way under the use of large doses of opium and ether. I have ordered her sometimes three grains of morphia at a dose. This was usually followed by warmth of surface, remission of pain, a rising of the pulse, a general sensation of improvement, and sleep. After this action the symptoms would abate, and under bitter stimulating tonics she would recover her usual strength. In the autumn of 1852 this lady went to Jersey, where she had a severe illness, marked by pain in the right side, for which leeches and blisters were resorted to. The cause of her illness was represented to be inflammation of the liver. My acquaintance with her previous history, and subsequent opportunities, lead me to doubt the correctness of this view of the case. At any rate this illness would appear to have been much more protracted and grave than any she had previously suffered. It left her weak, with her appetite impaired; she never recovered her ordinary health.

“Throughout March, 1853, she underwent excessive anxiety and fatigue, owing to the illness of her husband, which terminated fatally. On the 8th of April she complained of spasms, pain in the stomach, and loss of appetite. These symptoms increased, and on the 14th the cramps and pain were intensely aggravated, and violent vomiting set in, with great mental depression. Hydrocyanic acid, ice, soda-water, blisters to the pit of the stomach, dressed with morphia, had no alleviating effect. No sleep; pulse not quick, but full; tongue white, furred; bowels not costive; urine high-coloured. The vomited matter was at first light-coloured, containing milk, and such similar bland articles of food as she could still take. It gradually became greener; and no food but an occasional spoonful of beef-tea could be swallowed. When the vomited matter was allowed to stand, a green matter subsided forming a thick stratum. On examination this green matter was found to consist almost entirely of *sarcinæ*. Sulphite of soda was now administered in scruple doses every four hours. After thirty-six hours’ use, the vomiting had abated, the last vomitings exhibiting less of the green sediment. The pain remained of the most agonising intensity. The expression of suffering exhibited in the countenance was afflicting to witness. She begged for chloroform as an escape from her torture. The quantity of sulphite was diminished, and a mixture of infusion of quassia, bi-carbonate of potassa, and tincture of orange was added. The symptoms remitted somewhat, but the prostration increased. Breathing was distressing; she could not fill the chest, but respiration was heard in every part; the pulse was intermitting, especially after any exertion, such as sitting up in bed. Pressure below right ribs gave pain. There was no swelling of the feet or abdomen. A blister was applied to the right hypochondrium;

ten grains of calomel, followed by an enema. On the 18th, Dr. Hassall saw the case with me. The symptoms were as detailed. The treatment was persisted in. On the 19th the quassia mixture seemed to compose and give relief, so much so, that it was supposed by the patient and her attendants to contain a narcotic. The appetite was somewhat improved: she took a little beef-tea. Some urine passed, and the bowels acted freely. On the 20th the distress of breathing increased; the anxiety of countenance and of manner returned. She begged for chloroform with increasing earnestness. This was administered occasionally, and was the only means by which even a temporary mitigation of suffering could be procured. The remittent character of the pulse increased; jaundice appeared; the tongue was not furred, but glazed. The treatment was continued. On the 21st she was much worse; she had vomited several times in the night; the green matter was again visible; tympanitis and some effusion in the abdomen. On the 22d, at eight p.m., she sank. Her dissolution was preceded by a return of copious vomiting. The suffering at the stomach, and the distress of breathing and the jaundice gradually became more intense.

"Autopsy on the 24th.—The examination was limited to the stomach, liver, and intestines. A considerable layer of fat in the walls of the abdomen; the omentum was also very fat. The stomach was full of turbid green matter similar to that which had been so abundantly vomited just before death; some of the same fluid was also found in the duodenum. The mucous membrane of the stomach exhibited a punctate injection, which was a little more marked towards the pylorus. The pylorus was not contracted to a sensible degree; the valvular ridge, although it felt slightly thicker than natural, was composed of nothing but normal tissues—muscular fibres and mucous membrane. The utmost that could be said was, that there was slight hypertrophy of the structures forming the valve. There was some clear fluid in the peritoneum. The peritoneal covering of the liver was free from any mark of inflammation or adhesions; it was not enlarged or contracted; the colour was pale, the aspect like that of a nutmeg; an incised surface presented a similar appearance; the texture was soft and lacerable. On a microscopic examination, scarcely a vestige of liver that could be supposed to be in a condition to fulfil its normal function could be found. It might be said with truth, that the hepatic cells in every part were full of oil. It is undoubtedly a matter for regret that circumstances prevented a more extended examination, embracing the heart, lungs, and kidneys. A careful investigation of the chest during life leads me to believe that the lungs were healthy. The urine had given no indication of granular disease of the kidney. It is not, however, improbable that there was some amount of fatty degeneration of the heart."

ART. 50.—*Case of Enormously Dilated Stomach.* By Dr. MILLER.

(*Transactions of the Pathological Society*, vol. iv, 1853.)

The points of interest in this case appear to be the great difficulty in making a correct diagnosis of the nature of the abdominal tumour, and the complete absence of abdominal pain, as in cases generally of mechanical obstruction of the bowels. The cessation of vomiting probably only began on the occurrence of paralysis of the muscular coats of the stomach.

CASE.—Mrs. M—, æt. 48, a lady of nervous temperament, and the mother of several children, sent for me early in the morning of the 7th of

March. She had been seized with vomiting, which had continued the whole of the previous night. The fluid ejected amounted to as much as five wash-hand basinsful. She was faint and weak, the pulse not exceeding forty in a minute, and intermitting. Beyond this and a feeble heart's action there was no other symptom. The abdomen was lax and soft, without pain upon pressure. She had been recently under Dr. Moore's care, being troubled with piles and prolapsus of the rectum. She had been getting thin lately, and her daughter had observed a slight increase in the size of her abdomen. I relieved the bowels by an enema, and applied other remedies. On the following day Dr. Moore saw her with me. The abdomen on examination was found sunk and depressed, little gurgling was heard in the region of the stomach, and some unusual hardness which had been observed the day previous, was felt in the right hypochondriac region. Vomiting had somewhat subsided. The tongue was dry. The bowels were again relieved of some lumpy bilious fæces by means of an injection, and remedies of a palliative nature were continued. On the following day vomiting had subsided, but the patient appeared more distressed and ill.

On the 10th, four days from the seizure, the severe vomiting ceased; we discovered a considerable swelling of the whole abdomen, commencing about the left iliac region, except that part on the right side of a line drawn from the ensiform cartilage, to right superior spinous process of ileum. The swelling was tympanitic. The pulse increased in frequency, and became more regular.

On the 11th, the tumor, instead of being tympanitic, was dull on percussion, and fluctuated; the patient experienced an inclination to vomit, on pressure being made over it.

On the three following days she continued in the same state, the abdominal tumor being larger and fluctuating; the general symptoms were those of exhaustion, but with complete absence of pain, sickness, or natural action of the bowels. On the 14th Dr. Watson saw her, who expressing an opinion as to the difficulty of forming a correct diagnosis of the case, believed it to be one of preternaturally distended stomach containing fluid, and that there probably existed some mechanical obstruction of the bowels. On the following day she became delirious at times without any relief to the symptoms generally. On the 16th she was seen by Dr. Bright, who did not come to the same conclusion as to the nature of the case as Dr. Watson. On the 17th she expired.

Mr. Humby examined the body on the following day. The viscera of the abdomen were found healthy, but the stomach, distended to an enormous size, was found occupying the whole side of the abdominal tumor. In many places the muscular fibres of the organ had completely given way, approximating its mucous and peritoneal coats. The cavity of the stomach was capable of holding $10\frac{1}{2}$ pints of fluid. The small intestines were contracted to a very small size, and were completely pushed down into the cavity of the pelvis. No malignant disease in the abdomen whatever. In a portion of the fluid rejected from the stomach, Dr. Miller found abundant specimens of *sarcina ventriculi*.

ART. 51.—*On the Use of Chloroform in Cases of Spasmodic Obstruction of the Bowels.* By Dr. CAIN.

(*Philadelphia Medical Examiner*, Nov., 1853; *Southern Medical and Surgical Journal*.)

"For more than two years," writes Dr. Cain, "I have used chloroform, as a more powerful agent than opium and its preparations, and as more certain in relaxing the muscular system in these cases. The chloroform inhaled in greater or less quantity, soon produces a greater or less degree of resolution, and taking advantage of the relaxation thus effected, I give enemata, either stimulating, mucilaginous, or oily, which in a short time bring away fecal matter. The inhalation may be repeated as often as in the judgment of the physician the case demands.

"Chloroform possesses the immense advantage over opium, of relieving effectually and promptly the pain, and in not leaving the bowels in a constricted state, the sedative effect soon passing off.

"Seven cases have thus been treated by me with highly satisfactory results. In one case only have I experienced any difficulty in inducing the requisite degree of relaxation of the bowels. The subject of this case was very slightly susceptible to its influence; but the pain was completely relieved by frequent inhalations, and the obstruction gradually overcome."

ART. 52.—*Observations on the Use of Opium as a Substitute for Purgatives in Severe Cases of Obstruction of the Bowels.* By G. EVANS, M.D., of Carlisle.

(*Edinburgh Monthly Journal*, Nov. 1853.)

"Notwithstanding the frequency, alarming character, and even fatal termination of those cases which belong to that class of diseases of which colic is the type, and where there are symptoms clearly indicating a serious obstruction to the natural passage of the contents of the bowel, there is not to be found in works on the practice of medicine a system of treatment specifically based upon physiological indications. If we except the treatment of idiopathic enteritis, we find that authors sanction the purgative plan of treatment, including the exhibition of croton oil and other powerful cathartics. They, however, admit that it is absolutely impossible to determine with any degree of certainty, the existence or non-existence of a mechanical body; its precise character, and whether removable or not. Dr. Watson and Dr. Copland wisely denounce in strong terms the exhibition of purgatives in obstructed bowel connected with idiopathic enteritis; they, however, admit that in colic, inflammation may be present without any indication of its existence. Dr. Copland says that "the pulse is often a most fallacious guide in every form of colic and ileus; and that the diagnosis between colic and inflammation cannot be stated with precision, for there is no symptom which can be relied upon, for inflammation with its consequences, may exist, and yet the

abdomen may not be painful on pressure ;” he even enumerates among the aids to a correct diagnosis, the operation of the remedies administered. Dr. Watson would discontinue the exhibition of purgatives in colic after a fair trial, from the conviction that the mechanical obstacle is such that it cannot be overcome. Alluding to the purgative plan of treatment, he says:—“Common sense and common humanity answer, you must stop it the instant you are convinced that there is a mechanical obstacle which cannot be overcome ; to persist in the use of drastic purgatives after that conviction is to inflict wanton and needless torture upon the patient.” The reader who may be inclined to peruse what has been written on colic and ileus will not be surprised when I state that the pathology and treatment are most indefinite, unsatisfactory, and uncertain. It would seem from the purgative treatment sanctioned, that the pathological phenomenon of spasmodic intestinal stricture has been entirely overlooked, and that the primary indication of treatment is the removal of constipation, and that evidently without any special reference either to the causes giving rise to it or to the altered physiological conditions leading to spasmodic constriction of the intestine.

“However, I maintain that the primary and most important indication to be pursued is, the alleviation of spasmodic constriction, and that this is scientific, and in accordance with physiological indications, and in no case, however ambiguous, productive of mischief, nor even distress, to the patient. For supposing a removable mechanical body existed, which produced local irritation of the nervous fibres of a given portion of the intestine, and consequently spasmodic contraction of its muscular coat, it is manifestly clear that it can only be removed by the equable and consentaneous action of the intestine, and that after the alleviation of spasmodic constriction.

“The secondary and comparatively least important indication of treatment is the removal of constipation ; and this it appears scientific to accomplish by the repeated injection of copious lavements, instead of the exhibition of purgatives by the mouth. For should the obstruction arise from causes which can only be discovered by a post-mortem examination, such as intussusceptio, internal hernia, or a tumour within the peritoneal cavity, after the partial or complete alleviation of general and local nervous irritation, the forcible injection of copious lavements is the only rational means of relief which the physician can with safety adopt.”

ART. 53.—*On Strychnia in Lead Poisoning.* By Dr. SWETT.

(*Dublin Medical Press*, Jan. 4, 1854.)

Dr. Swett has recently recalled the attention of the New York Medical and Surgical Society to a point in practice, which he brought before their notice a year or two ago—the use of strychnia in lead colic, in moderate doses of about the sixteenth part of a grain, three times a day. This has become the settled practice in the New York Hospital. Relief is usually experienced within forty-eight hours ; the bowels act, and the disease subsides. He recalled to mind one

case, however, which went four days before relief was afforded. He also related the case of a young Englishman, a clerk in a drug store, who was admitted to the hospital a few weeks ago, with what was at first considered as ordinary colic. After a time, however, the following facts were elicited. It appeared that, upon first opening the store in the morning, he had been in the constant habit of taking a glass of soda water, which had remained over night in the lead pipe connected with the fountain. Strychnia was used in this case with great success. Dr. Swett states that, under the use of this drug, he has noticed twitching of the abdominal muscles before a passage from the bowels. He thinks that the disease is consequent upon paralysis of the intestines, and that strychnia, by acting upon the nerves, relieved it. Dr. Bulkley remarks that he has employed the strychnia treatment in colica pictonum, and stated that since the 1st of August there had been five cases of the disease successfully treated with that remedy during his attendance in the New York Hospital. He remarked as a curious fact, that in ordinary paralytic cases the exhibition of strychnia will not affect the bowels. Dr. B. mentions a case which had occurred this summer, from drinking soda-water early in the morning, which had become impregnated with the lead poison by standing in the fountain over night; and refers to an obscure case of this disease now under treatment, in which the patient had suffered for seven or eight years. He was relieved by the use of strychnia, and is rapidly improving.

ART. 54.—(1) *A Case of Diarrhœa Adiposa*. By J. A. MARSTON, Esq.; and (2) *Remarks on such Cases*, by C. E. REEVES.

(1. *Glasgow Medical Journal*, Oct., 1853; and 2. *Edin. Medical Journal*, March, 1854.)

1. This case is one of great rarity and of high physiological interest. Mr. Marston apprehends that we may conclude from it "that the pancreas does aid in the digestion of starchy matters, and that it does in some way prepare the fatty ingesta for absorption, and it supplies the gap in the experiments of Bouchardat and Sandras, as to whether the pancreatic or duodenal secretion had the greater share in the digestion of starch; for here the duodenum was apparently quite healthy, and the head of the pancreas alone involved by a malignant disease, differing from the cases before recorded. These he finds to be—a case of diarrhœa adiposa, under Dr. Elliotson, which recovered under the administration of olive oil, a similar case met with by Mr. Lloyd, and three such cases seen by Dr. Bright. The results of post mortem examinations in all the fatal cases, disclosed schirrous disease involving the pancreas and duodenum. "Surely (he observes) this points to the pancreas as discharging a function having direct influence upon the digestion and assimilation of fatty matters."

CASE.—B. R—, æt. 35, labourer, of bilious temperament and middle stature, with a fatty frame, but of a very sallow and emaciated face, came under treatment November, 1852. He complained chiefly of general debility, and a dull pain, accompanied by a creeping sensation, as if of a live animal, along the inferior part of epigastrium to the left side, and round the back

to the right hypochondrium. He had also frequent purging of large quantities of a very peculiar fatty-looking substance, but in the intervals his bowels were rather sluggish, when purgatives and mercurials appeared to give some relief, but always augmented the discharge of this fatty matter. Some time back he had suffered from a dull aching pain in the right hypochondrium and back, extending upwards occasionally to the right shoulder. These symptoms had been gradually coming on for ten or twelve months, without apparent cause. The respiration was slow and passive, but no pulmonary disease could be detected. Heart's action was feeble, and impulse scarcely perceptible, yet no organic lesion was present, nor had he experienced dyspnœa or palpitation. There was no tenderness, swelling, or tumour anywhere, except a slight enlargement of the liver. His appetite was good, and he had a great desire for saccharine matters, fat meat, and hydro-carbons generally. Urine was passed in abnormal quantity, pale in colour, with very slight reaction on litmus: sp. gr. 1.030: under the microscope it presented a few epithelial scales, and a number of oil globules; on evaporating a portion and treating it with ether, these globules were dissolved; there was less than a normal amount of urea and lithic acid, and no albumen; but Trommer's test, yeast, and oxide of silver indicated the presence of sugar, and the skin was harsh and dry, though he did not complain at all of these diabetic symptoms, *all* of which disappeared some time before death. Tongue was slightly furred; gums and inside of lips were pale and flabby; pulse 100, but it varied during treatment from 90 to 120. No cancer, phthisis, or cardiac affection could be traced in any of his family, which had been generally healthy.

The matters passed from the bowels presented a very fatty, tenacious, and peculiarly slimy appearance, deficient in bile, and altogether different from fæces; on raising a portion on the point of a knife, it appeared in greasy masses; under the microscope numerous epithelial scales, with mucus, and a substance laden with oil globules, in every respect similar to fat, were observed: their fatty nature was rendered more evident by their being soluble in ether, and with liq. potassæ forming a semi-opaque gelatinous mass exactly resembling soft soap.

"Now, the questions as to the *origo mali* in this case were—Was the liver affected with chronic inflammation or enlarged by engorgement? Did the fault rest with the stomach, pancreas, or kidneys, or was it a case of mal-assimilation and degeneration of the tissues generally? I confess it baffled my attempts at diagnosis. He had already been under medical treatment for the last six or eight months, during which he had taken mercury and opium, been leeches, blistered, &c. without marked benefit. I advised that he should abstain from farinaceous and saccharine articles of food. Diaphoretics succeeded, though with difficulty, in producing diaphoresis; the sweat had no acid reaction on litmus. Olive oil, instead of being beneficial, only increased the discharge of fatty matter, and deranged the stomach. Purgatives, mercurials, counter-irritants, with small doses of iodide of potassium and ung. iodini to region of liver, and a variety of other remedies failing to produce relief, at last all medical treatment was discontinued. His appetite continued good, but the adipose diarrhœa (four or five stools per diem upon the average) continuing, he gradually sank, and died apparently from asthenia, after having been under medical treatment altogether thirteen to fourteen months. Towards the last he was ordered porter and beef tea, with opium, to support his strength and relieve irritability. The urine was examined from time to time, and the quantity of sugar was found gradually to decrease, and ultimately to disappear altogether: but there were still present

the oil globules and fatty epithelium. I fancied that the symptoms were somewhat mitigated by careful abstinence from farinaceous articles of diet.

"In consequence of the patient's residing at a distance of six miles, I could not watch the case so closely as I desired.

"*Post-mortem Examination.*—General appearance of body sallow and emaciated; face, tongue, and lips, flabby and anæmic.

"*Head.*—Brain and its membranes healthy, and no abnormal effusion into ventricles.

"*Thorax.*—Old pleuritic adhesions on both sides. Lungs gave a healthy crepitus, contained no tubercles, but were somewhat doughy and greasy to the feel; pericardium quite healthy; heart dilated and flabby; walls of ventricles collapsing, and becoming perfectly flat, and though not presenting the true fatty degeneration of the sarcal elements, yet there was a deposition of fat intimately amid its muscular fibres.

"*Abdomen.*—No adhesions of peritoneum; the sub-peritoneal fat was abundant. Liver slightly enlarged, and presented the fatty greasy structure of a phthisical subject. Gall bladder full; ducts quite patent. Kidneys, particularly the left, enlarged and fatty. Duodenum quite healthy, but the head of pancreas appeared to be converted into a hard schirroid tumour, which did not press upon the ductus communis choledochus, as in most of the similar recorded cases, whilst the body and other parts of gland were atrophied, and its duct was found perfectly obliterated and degenerated into an impervious cord. This state of the pancreas was, I presume, the most important of the post-mortem appearances. The examination might have been performed more minutely, but for the prejudices of the friends."

2. Further evidence upon cases of this kind is to be found in a highly-interesting paper by Dr. Reeves, "on Fat in the Excretions," in the *Edinburgh Journal* of March, 1854.

Dr. Reeves, however, is not disposed to regard the presence of fat in the fæces as due to the prevention of the entrance of the pancreatic juice into the intestines, and he says that Dr. Bright (who first put forth this opinion) eventually met with several cases in which the spleen was so altered that there could be very little secretion, where no fat was observed in the fæces, and that, on this account, he modified his views on the subject. Dr. Reeves himself says—"I have met with several cases of chronic inflammation, obstruction of the ducts, and cancer of this organ, where no fat was observed, and its absence was always compensated for by an increased secretion from the other salivary glands.

"Fat, as a disease, must, I think, be looked upon as resulting from some change either in the bile itself or from the liver secreting it from the portal vein, the blood of which must contain an unusual quantity of fat, from its being reabsorbed,—and from the system not being in a state to re-receive it, instead of being taken up in the intestines by the columnar epithelium, already no doubt loaded with oil, it appears in the fæces. In one of the cases which fell under Dr. Elliotson's notice, the intestines were as if bathed in oil.

"As a proof of its being probably due to the first cause, I may cite the following instances:—Chevalier found the bile of a man, who died from schirrous pancreas, to contain yellow semi-crystalline fat. Bizio found the same in some thick dark bile. Mérat also found it in the

bile of a man in whose fæces it had existed during life. During my studentship, the body of a female, highly jaundiced, was brought into the *École Pratique*; the gall bladder and the ducts were distended with thick dark bile, and in it fatty masses were floating. The duodenum was inflamed, and the opening of the duct was obstructed. Portal met with masses in the livers of both a male and female who had passed fat during life. Dr. Ogle (*Transact. of Pathological Soc. of London*) found in the body of a patient who had died from disease of the kidneys, in an obscure form of pneumonia, masses in the liver equal in diameter to 6d., of a light yellow colour, and in considerable number. The liver itself was in the first stage of cirrhosis. Under the microscope these concretions were found to consist of oily molecules, with a white amorphous blastema, and nucleolar corpuscles. The kidneys contained similar deposits. Mr. Lloyd found the common duct to contain a brownish-yellow fluid, like that passed during life. Further, every case of fatty discharge has presented some hepatic disturbance, generally jaundice, and when the opening of the duct into the duodenum became closed, the fat has ceased to appear."

Dr. Reeves very carefully ransacks the clinical history of this subject, and refers to 16 cases, and these are the results:—

The liver was enlarged in eight out of the 16 cases; in six of this number the gall-bladder and ducts were distended with thick dark bile; in the remaining two, in one the right lobe was hardened, and the gall-bladder and canals contained concrete bile with fatty masses; in another it was pale and soft, its canals and gall-bladder being empty. In the remaining cases, in one the liver was small and hard; it contained concretions; its canals and gall-bladder were empty. In another case it was small and pale; its canals and gall-bladder empty; in two cases it was quite healthy; the canals empty; in one the gall-bladder was distended with thick bile. In two cases the liver was cancerous.

The Pancreas and Ducts.—In five cases no lesion of the pancreas or its ducts was observed. In two the gland was healthy, but their ducts contained calculi. In two of the cases it was generally hardened, their ducts contained calculi; in one of these the choloidic duct was wide above, but narrow below, from pressure of head of pancreas. In one case it was fatty, its ducts containing calculi. In four cases the gland was cancerous; one contained two tumours—one in centre, the other on its right head—in the other three the right head was affected, the rest of gland being atrophied in one instance; in the other two the liver was cancerous—in one of these the opening of common duct small, in the other the pancreatic duct was obliterated. In one case the right head of the gland was enlarged, the opening of the common duct closed. In another the right head was converted into a cyst, both the pancreatic and choloidic duct being obliterated.

ART. 55.—*Iodine Injections in Ascites.* By Dr. COSTES.

(*Gaz. Méd. de Paris*, Oct. 29, 1853, from the *Journal de Méd. de Bourdeaux*.)

In this article, Dr. Costes relates the particulars of two cases of ascites which he treated in this manner, and he thinks the results are favorable, though it is not probable that his opinion will be shared by every one. Dr. Costes appears to have published the particulars of some similar cases in 1851.

CASE 1.—The patient in this case was a delicate female, æt. 45. The operation was performed after a second tapping. The injection was composed of 40 grammes of tincture of iodine, 80 gr. of water, and 2 gr. of iodide of potassium. Immediately after the operation the heat left the extremities, and the patient became anxious and agitated; then nausea, acute abdominal pain, perspiration, and syncopal depression made their appearance. This state continued for 24 hours, and then gradually subsided. The ascites had not returned three months after the operation.

CASE 2.—A female, æt. 68. Here also, the injection was performed after a second tapping, but the fluid injected was weaker, viz., 30 gr. of tincture of iodine, 130 gr. of water, and 2 gr. of the iodide of potassium. This was on the 17th of July. A minute after the operation, the pulse was slow and almost imperceptible; then violent abdominal pain and great heat set in, and continued for a quarter of an hour, the face being pale and somewhat pinched. Half an hour later the patient began to vomit, and this vomiting and the symptoms of violent peritoneal inflammation continued for the next 48 hours. Then the acute symptoms subsided, and as they subsided the ascites reappeared. On the 25th of August, a second tapping and a second injection were performed and with the same results, only on this occasion the inflammatory symptoms were somewhat less violent. Eventually the fluid re-accumulated, and the patient broke down; death happening on the 30th of the next month. After death tubercles were found on the peritoneum, and some puriform fluid in the peritoneal cavity.

ART. 56.—*On the Local Application of Chloroform Vapour in Tenesmus.* By M. EHRENREICH.

(*Pr. Ver. Ztg.*, 29, 1853; and *Schmidt's Jahrbucher*, Bd. 80, No. 10, p. 18, 1853.)

M. Ehrenreich relates the case of a patient suffering from dysentery, and tormented by agonising tenesmus, in which he employed the injection of chloroform vapour with the most encouraging success. He poured thirty drops of the ether into an empty injecting syringe, and having passed the canula into the bowel, and allowed time for the chloroform to vaporise, he depressed the piston partially, and so introduced some of the vapour into the bowel. The effect of this operation was some transitory irritation; but the tenesmus ceased, and did not return for three hours, and the bowel showed no disposition to act during this time. The relief, also, continued after this time, for the motions were much less bloody and unnatural than they had been previously. The day following, the tenesmus having returned, M. Ehrenreich put thirty drops of chloroform into a cupping-

glass, and held the mouth of this loosely over the anal orifice. This application was followed by the same relief as the first, only on this occasion the primary irritation was a little more severe. No other application was necessary.

M. Ehrenreich proposes in future to put a drachm of chloroform into a small bottle, having a gutta-percha or india-rubber pipe of sufficient length,—to introduce the free end of the tube into the bowel,—and then to vapourise the fluid in the bottle, and cause the vapour to ascend through the tube into the bowel by the heat of the hand or of warm water.

ART. 57.—*Cases of Abscess in the Liver, pointing externally, and Opened by Incision, or Discharging into some of the Abdominal or Thoracic Passages and Cavities, with Remarks on the Treatment by Operation.*
By M. STOVELL, Surgeon to the European General Hospital, Bombay.

(*Bombay Transactions and Indian Annals*, Oct. 1853.)

Mr. Stovell finds that, out of 299 cases of hepatitis admitted during the six years ending May 31st, 1852, 48, or 16·053 per cent. proved fatal. It is further shown that, out of the above 299 cases of hepatitis, abscesses pointed externally and were opened in 6, or 2·006 per cent.; discharged into the alimentary canal in 2, or 0·668 per cent.; into the peritoneal cavity in 1, or 0·334 per cent.; and into the bronchi in 11, or 3·678 per cent. It is further seen that, out of 6 cases in which the abscesses were opened, 5, or 83·333 per cent. proved fatal, while out of 11 which opened into the bronchi, only 5, or 45·455 per cent. proved fatal. Thus, out of 299 cases of hepatitis, there occurred 48 deaths. Abscess supervened in 20 cases, 13 of which proved fatal. There was not any instance in which an abscess opened spontaneously, either externally or into the pleural cavity. Mr. Stovell gives several cases in detail, and concludes his interesting paper with an historical sketch of the operations for evacuating hepatic abscesses, to which we think he might have added many important particulars from several sources, and especially from a chapter devoted to the subject in 'Pathologica Indica.'

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 58.—*On the Characters of Urine depositing Oxalate of Lime.*
By Dr. DOUGLAS MACLAGAN.

(*Edinb. Monthly Journal*, Dec. 1853; and *Edinb. Medical and Surgical Journal*, Jan. 1854.)

1. The mean density of all the specimens of urine referred to in this interesting paper is 1024·4; the specific gravity is, therefore, somewhat above the natural standard. The observed difference of density between the morning and evening urines is confirmed by Dr. Maclagan's experience, and has reference to the fact that the presence of this

deposit in the urine is commonly connected with a disorder, more or less important, of the digestive and assimilative processes.

2. Concerning colour—as a general rule it was paler than the average of healthy urine.

3. Odour—sweet brier smell frequently ; in some instances more or less fetid, never ammoniacal ; only a very few times even urinous.

4. Reaction—in general strongly acid.

5. Saline and other concomitants.—In 37 specimens.

| | Morning. | Evening. |
|--|----------|----------|
| Oxalates unmixed, . . . | 16 | 14 |
| Oxalates with other salinede posits, . . . | 16 | 20 |
| Not examined, . . . | 5 | 3 |
| | — | — |
| | 37 | 37 |

Of the saline concomitants the lithates alone occurred frequently ; next to them, but comparatively rarely, the uric acid, oxalates, and amorphous phosphates ; and again in almost solitary instances, triple phosphate, cystine, xanthein, pus, sugar, blood, and in six instances a more or less notable reaction of purpurine. Epithelium in the 37 specimens.

| | Morning. | Evening. |
|---------------------|----------|----------|
| Copious, . . . | 12 | 10 |
| Trifling, . . . | 20 | 24 |
| Not examined, . . . | 5 | 3 |

As a general rule, the amount of oxalate is much greater in the evening than in the morning urine.

ART. 59.—*On the Diagnostic Value of the absence of Chlorides in the Urine.* By Dr. HUGHES BENNETT, Professor of Clinical Medicine in the University of Edinburgh.

(*Edinburgh Monthly Journal*, April, 1854.)

“Simon and Redtenbacher,” writes Dr. Bennett, “first stated that chloride of sodium, a salt always present in healthy urine, was absent from that fluid during the onward progress of pneumonia, and returned to it when absorption of the exudation was about to commence. This statement was confirmed by Dr. Beale of London, who, in the 35th vol. of the Transactions of the Medical and Chirurgical Society of London, furthered our knowledge regarding it by additional valuable researches. My attention was directed to this remarkable fact during the present session by Dr. Robert Cartwright, a gentleman attending the Clinical Wards of the Infirmary, who informed me that he had seen it occasionally of great service in a diagnostic point of view, in the clinical wards of Professor Oppolzer at Vienna. It so happened that a man, John M'Donald, æt. 25, had just been admitted labouring under well marked simple pneumonia at the apex of the right lung. He was a labourer, who had enjoyed perfect health until two days before admission, when, on being exposed to wet and cold working at drains,

he was seized with shivering followed by fever, and the usual symptoms and signs of pneumonia. On adding a drop of nitric acid to some of his urine in a test tube, and then dropping into it a little solution of the nitrate of silver, the fluid remained clear, although so great is the delicacy of this test, that a white cloudy precipitate is at once formed, if a very minute quantity of the chloride of sodium be present. It was on the fourth day of the disease that the observation was first made, and the chlorides remained absent during the fifth and sixth days, during which period the disease extended from above downwards, until it occupied the upper two thirds of the right lung. On the seventh day a slight haze was observed in the urine, indicating that the salt was returning to that fluid, and the man expressed himself as being much better. On this day there was great dulness on percussion, all crepitation had ceased, the breathing was tubular with bronchophony. On the eighth day slight returning crepitation was audible, the dulness had diminished, but the urine, owing to some accident before the visit, had been thrown away. On the ninth day, however, the chlorides were abundant in that fluid, together with lithates; loud crepitation was now universal throughout the lung, and the dulness had nearly disappeared. From this time the man made a rapid recovery, never having been bled, and was discharged quite well on the sixteenth day.

I now requested Mr. Seymour, one of the clinical clerks, to test the urine of all the patients in the ward, and others who might subsequently be admitted, which he did, and thus collected a large number of observations, the results of which I shall allude to immediately. In the meantime another case entered, which seemed to point out the value of this test in a diagnostic point of view. It was that of a man, Donaldson, æt. 26, labouring under typhus fever, in whom the disease ran its usual course to the tenth day, when chlorides were demonstrated in it. On the eleventh day, however, pulmonary symptoms came on, and the chlorides were entirely absent from the urine. This led me to make, with the clinical class, a careful examination of the chest, when all the signs of pneumonia were detected in the lower half of the right lung. On the fourteenth day the chlorides reappeared, the pneumonic signs diminished (?), and the fever ceased with a critical sweat.

The third case was even more satisfactory in proving the moment of commencing and departing pneumonia by testing the urine for chloride of sodium. A man called David Murray, æt. 43, entered with pneumonia of the lower two thirds of the right lung. No consistent account could be obtained from him as to when the disease commenced, and it was impossible, therefore, to determine whether the coarse crepitation which was audible over the inflamed lung was the advancing or returning crepitation. But the chlorides were absent from the urine, which indicated that the disease was advancing. The following day complete consolidation had occurred, with dry tubular breathing and absence of crepitation, and a minute quantity of the chlorides was found in the urine. The patient, however, instead of getting better showed no improvement, and the next day the chlorides had again disappeared, indicating extension of the

pneumonia. On the evening of this day he was seized with acute meningitis, of which he died. On dissection, in addition to universal cerebral meningitis, the whole of the right lung presented the usual characters of grey hepatisation.

These cases serve to point out a remarkable connection between the absence of chlorides from the urine and the onward progress of pneumonia. I forbear from offering any opinion as to the theories which have or may be advanced on this subject. The fact requires to be more extensively investigated clinically than has yet been done to test its value. Still it seems to me, that where pneumonia exists, inferences of great importance as to the stage and progress of the disease may in this way be arrived at by the physician, of which he would be wise in future to avail himself, more especially when the test is so easily applied, and its character so readily determined.

Mr. Seymour tested with great care, and at repeated times, the urine of upwards of fifty other cases in the wards, embracing a great variety of disease. He found the chlorides absent in one case of phthisis, with intercurrent pneumonia, but in no other. They were also absent in one case of peritonitis, and in all the cases of small-pox. Further investigation will probably discover these salts to be absent in other diseases, which, although it may diminish the importance of the sign as distinctive of pneumonia, leaves unaffected its value as pointing out the onward progress of that disease. The whole subject, however, being so new in a clinical point of view, it is evidently premature to speculate in any way regarding it.

I need only now allude to one other point, viz., that if any phosphates exist in the urine, nitrate of silver throws down a faint sediment, which, although it cannot be mistaken for the precipitate of chlorides in healthy urine, may be confounded with the appearance it presents when small in amount. In such a case the action of ammonia, by dissolving the chlorides, is at once distinctive.

ART. 60.—*On the Use of Alkalies in the Treatment of Acidity of the Urine.* By Dr. BENCE JONES, Physician to St. George's Hospital.

(*Medical Times and Gazette*, March 25, 1854.)

Regarding the use of alkalies (we quote from a recent clinical lecture by Dr. Bence Jones), two kinds of action may be distinguished.

The first is curative; the second palliative.

The curative action consists in the promotion of oxidation, in causing the acids to pass into their ultimate combinations, carbonic acid and water, which pass off by the lungs, and thus leave the kidneys free; but the primary and more direct action is palliative. Alkalies neutralise acids, and the free acid is thus for the time removed. Still, this action is beneficial only so long as the alkalies are continued, and they must be continued until the curative action is completed. Thus, patients may be kept for weeks on alkalies, and two days after the alkali is omitted, the uric acid may re-appear in the urine in the form of red sand. The most striking instance which I have seen of this is the following: A gentleman had for three months been under my care for

uric-acid gravel; the excessive acidity was checked; to remove it, I advised him to go to Vichy. He went. For six weeks he took an alkaline hot bath for one hour each day. He drank from five to twelve half-pints of Vichy water, by which the urine was kept alkaline from fixed alkali, as the test paper which he sent me showed; and the day after he landed in England, on his return, the uric acid re-appeared in the urine. He continued the alkaline treatment some time longer, and for months no red sand appeared.

You may perhaps say, Which of the alkalies is best, and to what extent should it be given? In consequence of the constant supply of soda in the common salt of food, I think potassa is most likely to be needed and to be beneficial. In the 'Philosophical Transactions' for 1849, you will see a paper in which the action of potassa and tartrate of potassa on the urine is traced. The tartrate of potassa has a much more immediately sensible action on the urine than caustic potassa. The caustic potassa had, however, a decided action in neutralising the acidity of the urine.

In the 'British and Foreign Medical Review,' January, 1853, there is a paper by Dr. Parkes on the action of potassa. He speaks of taking a drachm of liquor potassæ in two ounces of water, and two drachms in three or four ounces of water. If taken on an empty stomach, it increased the flow of urine,—urine which was faintly acid soon became alkaline. He says two drachms in only four ounces of water caused me epigastric pain and uneasiness, although it produced considerable temporary scalding of the mouth and throat, and without apparently producing any local effects on the stomach. This degree of dilution is not sufficient in most cases. There is a patient now in Queen's ward, who complains of pain in the epigastrium and great soreness of the mouth, caused by half a drachm in an ounce and a half of water; moreover, this quantity I have known cause blood to be vomited.

Of the carbonate of potassa, larger quantities may be taken without injury to the stomach. Induced by the promise of a certain cure, patients will take much stronger doses of a quack medicine than of a Pharmacopœia preparation of the same substance, recommended with an accurate statement of the probable benefit to be derived from its use. Thus, the so-called "constitution water" is only a strong solution of carbonated alkali, which patients will take for weeks. It is with great difficulty that they can be persuaded to take an equivalent quantity of bicarbonate of potassa for a few days.

That large quantities of alkali may be taken without any injury for long periods is proved by cases on record. Among others, you will see an account in vol. v of the 'Medico-Chirurgical Transactions,' p. 80, of a young lady who began with half an ounce of subcarbonate of soda daily. She progressively increased it to an ounce and a half, two ounces, two ounces and a half, and finally to three ounces. This last quantity caused vomiting, and in a few days had to be lessened. She continued two ounces and a half daily for many months; the urine was alkaline; specific gravity, 1016; the blood drawn during the treatment coagulated firmly; there was no appearance of any deliquescence or impoverishment of it.

A very convenient form for taking the carbonate of soda exists in these soda lozenges, which consist of compressed carbonate of soda only.

Regarding the action of ammonia, I must refer you to experiments on the carbonate and tartrate given in the 'Philosophical Transactions' for 1851. The chief result is, that ammonia does not act as an alkali on the urine: it may neutralise acidity in the stomach, but it does not affect the urine like fixed alkali.

To neutralise acidity alkalies should be given when the stomach is full, that is, from one to three hours after breakfast, and from one to six hours after dinner. The amount of acid in the stomach during healthy digestion appears from my experiments considerably more than would be neutralised by the usual doses of alkali. At least in some healthy persons half an ounce of carbonate of potassa will not neutralise the gastric juice, and not unfrequently twice as much alkali would be required.

You may ask, How is the quantity of alkaline medicine to be determined in these cases of excessive acidity, and how long is the alkaline treatment to be continued? The rule is this. The urine must be passed into a clean phial, and the sooner the red crystals appear on the glass, or can be detected by the microscope, the more alkali must be taken, and it must be continued as long as the uric acid crystals are formed. If no crystallisation occurs in twenty-four hours the alkali may be stopped.

If, then, you find red sand in the urine, determine how soon the crystals form. The sooner the crystals occur the greater the acidity. The more alkali must be given, and the stricter must the dietetic rules be. If the red sand forms in the bladder, much larger quantities of alkali should be given than when it only forms after the urine has been passed; for each grain of red sand which forms in the bladder and kidneys may become the nucleus of a stone.

ART. 61.—*On the Action of Various Remedies in the Treatment of Diabetes.* By Dr. BASHAM, Physician to the Westminster Hospital.

(*Lancet*, Jan. 21 and 28, 1854.)

In these papers Dr. Basham relates several cases in illustration of the effects of several different kinds of remedies,—permanganate of potass, glycerine, sulphite of soda, hydrochloric acid, opium, diaphoretics, and alkalies. These several remedies were never administered in conjunction; and if in the same case two or more have been tried, a day or two has been allowed to elapse, in order that the phenomena noticed might be fairly referred to the remedy employed. In the end Dr. Basham finds,—

1st. That the permanganate of potass was given in two cases; that during its administration the amount of sugar excreted gradually increased, although the fluid amount of urine became somewhat less, and the thirst appeared to be alleviated. No inconvenience attended its use; ten-grain doses were taken without any unpleasant effects on the digestive organs: indeed, it was thought that some benefit arose

from it, as the fulness and eructations in one case seemed relieved by it. But during its administration the ratio of the sugar steadily increased; this occurred equally in both cases; the symptoms of each differed but little in intensity; there was but a slight discrepancy in their several ages, and in both the disease was unaccompanied by any pulmonary complication, so that there was scarcely room for a doubt that the increased amount of oxygen supplied to the food by the permanganate of potass facilitated the formation of sugar, and did not, as hypothetically inferred, advance the chemical conversion of the glucose into the stage of acid metamorphosis. Dr. Wood, of Philadelphia, has tried yeast in diabetes on the principle here enunciated, that as it converts sugar out of the body into acid products, acetic and carbonic acids, it might bring about analogous changes in the stomach. On a like principle, Dr. Gray, of Glasgow, has tried rennet, which converts sugar into lactic acid.

2dly. From the operation of the agents of the second class, administered on the hypothesis of their possibly retarding the conversion of the amylaceous elements of food into sugar, we can deduce only negative results. They were tried only in one case, and during a period of twenty-one days the amount of sugar was only faintly diminished, the specific gravity falling from 1044 to 1040, the average daily amount of urine remaining the same. The case in which these remedies were tried was one of great severity, and ultimately proved fatal; yet, notwithstanding, other remedies succeeded in reducing the amount of sugar, though only temporarily. Although glycerine and sulphite of soda failed in producing any effects in this case, Dr. Basham nevertheless desirous of again submitting these remedies to further trial, and testing by the evidence of more extended observation the fallacy or otherwise of their hypothetical agency.

3dly. *Opium and Opiates*.—These cases afford but a limited amount of evidence on the action of these agents. Opium certainly operated as a palliative; the thirst became much relieved, the amount of urine diminished, and the skin, by the presence of sudoresis, indicated a relief to its obstructed function; but the daily average amount of sugar excreted was not materially lessened, and the physical condition of the patient was not improved. Some constitutions will bear opium much better than others, and it must not be inferred that because these cases do not exhibit its agency in a more favorable light, that opium may not in other instances produce more remedial effects.

4thly. *Hydrochloric Acid*.—The action of this mineral acid appears in a favorable light in one case: it promoted the digestive function, relieved the flatulence, and probably furnished an important material to the solvent functions of the stomach. In other forms of dyspeptic derangement its agency is familiar. It should always be taken some few minutes before food.

5thly. *Diaphoretics*.—These may be administered in conjunction with opium. The suppressed function of the skin is so very evident in all cases of diabetes, becoming harsh, wrinkled, and furfuraceous, patients seldom perspiring, and relief being always apparent so soon as any moisture is obtained on the surface, that remedies which promote the cutaneous excretion are always more or less indicated.

Opium itself tends to promote diaphoresis, even when given alone, and its action in this respect may be much increased by combining it with antimonials. Flannel clothing should be strictly enjoined. Several of these cases illustrate the advantage of warm baths in conjunction with these agents.

6thly. *Ammonia and Alkalies*.—The testimony of almost all writers on this disease is in favour of the remedial power of alkalies, particularly of the carbonate of ammonia; and the cases under consideration corroborate the opinions of the most experienced physicians on their efficacy. The fifth case presents the most satisfactory proofs of this plan of treatment, as the patient left the hospital temporarily cured. Of the mode of action of alkalies in this disease, little is known beyond what is hypothetical. Mialhe states that the blood in diabetes is deficient in alkaline salts; and he affirms that the ultimate conversion of the sugar formed out of the food, into products capable of being eliminated by the respiratory function, is not effected in consequence of the deficiency. To supply this defect should be the leading principle in the treatment of glucosuria. Whether we adopt this theory or not the fact remains indisputable, that a larger amount of relief is obtained by a steady and persevering use of ammonia and alkaline salts than can be procured by any other class of remedies. However, to render them efficient a well-regulated diet must be rigidly followed, and this should be limited as much as possible to animal or nitrogenous food. In the opinion of Bouchardet, clothing ranks next to diet. Moreover, the intelligent co-operation of the patient is absolutely necessary; for, unless he can be made to understand and enter into the object for which so strict a diet is prescribed, the effects of the alkaline plan of treatment will prove uncertain and unsatisfactory. The progress of cases in private practice is for the most part always more satisfactory than among hospital patients, principally for this reason, that intelligence lends force to the efforts of self-denial, and develops a more powerful control over the appetites and habits; the less educated are but little inclined to abstain even from things which they know to be positively injurious, and they with difficulty can be brought to comprehend the necessity for refraining from bread and vegetables, which their necessities have always taught them to be the staple articles of their food.

ART. 62.—*Case of Diabetes Mellitus treated by Rennet.*
By Dr. FEARNSIDE, Physician to the Preston Dispensary.

(*Edinburgh Monthly Journal*, March, 1854.)

This case is of considerable value as an additional means of testing the value of Dr. Gray's suggestion respecting rennet in the treatment of this disorder. The facts already recorded will be found in our former volumes (xvi, p. 117, and xvii, p. 275).

CASE.—Mrs. H., a tall, spare woman, æt. 55, had suffered from bad health for some time, without being able to indicate the existence of any special ailment. She had lost strength and flesh, and for some months before she fell under my notice, her debility had increased so much that it was with

difficulty that she attended to her ordinary domestic duties. For a considerable time she had remarked that the quantity of urine passed was excessive, and she had been harassed by constant thirst. When I saw her the expression of the countenance was haggard and anxious; the skin was hot and dry; the pulse quick; the tongue was loaded with a yellow fur; she complained of inodorous eructations, heartburn and flatulence; the bowels were confined; the thirst inordinate. There was great muscular weakness, and severe pains in the back and limbs. The quantity of urine passed in twenty-four hours was five quarts; it was acid; specific gravity 1046, and gave evidence on the application of the potash and copper tests of containing sugar.

After the use of some gentle aperient medicine, the diluted mineral and hydrocyanic acids were prescribed, and with more or less regularity, were taken for some months. The diet was strictly limited to butcher-meat, fish, eggs, milk, and bran bread. Fresh vegetables, as cabbages, were taken occasionally. Brandy and water was allowed as a beverage. A dose of rennet was taken after each meal.

A fortnight after the adoption of this plan, the patient became so conscious of its good effects, that notwithstanding the vigorous exercise of self-denial which it required, no further exhortations were needed to ensure its steady employment. The digestion improved, the thirst subsided; the quantity of urine passed in twenty-four hours fell from five quarts to two quarts, and eventually to three pints, and its specific gravity descended in three months from 1046 to 1020. It has now for some months been free from sugar, although the patient has cautiously and gradually returned to her ordinary mode of life. She has recovered in a considerable degree her strength, but remains spare and thin.

(F.) CONCERNING THE CUTANEOUS SYSTEM.

ART. 63.—*On the Keloid of Alibert and on True Keloid.* By (1) Dr. ADDISON, Physician to Guy's Hospital, and (2) Dr. ALDERSON, Physician to St Mary's Hospital.

(*Lancet*, Feb. 28 and March 11, 1854)

I. The more immediate object of Dr. Addison's communication (which was read before the Royal Medical and Chirurgical Society) is to show that the keloid originally described by Alibert was altogether different in its mode of development, character, and progress, from another disease occurring in the same tissue, and to which with much greater aptitude the term keloid might be applied, if regard be had to the resemblance to the effects created by a burn, which the author thought the correct interpretation of the word,—he deriving it from *κηλὶς*, *quasi ustione facta macula*. The keloid of Alibert and others could hardly be regarded otherwise than as a fibrous tumour developed in the subcutaneous areolar tissue; the other form of the disease, although originating in the same tissue, was of a character, and led to consequences widely different. The keloid of Alibert first appeared in the form of very small, hard, shining, tubercular-looking elevations, of a roundish or oval shape, of a dusky deep-red colour, and attended

with itching and pricking sensations in the part. These tumours slowly increased, and comprised an area varying from that of a horse-bean to that of a small almond. The tumour displayed oftentimes a hardness and elasticity which conveyed the notion of so much fibro-cartilage, to which it had not inaptly been compared. After an uncertain period, the outline of the tumour became broader and more irregular, and by the aid of a magnifying glass, delicate, whitish, tendinous-looking lines might be perceived stretching across the surface of the tumour, mingled with minute blood-vessels of a bluish or purple colour. The extension of each individual tumour seemed to be effected by certain tapering claw-like processes proceeding from its edges and angles, and thus was produced a puckering of the skin. The development and growth of these tumours might proceed for months or even years, and at last attain the size of an inch or even two inches. As the growth of the tumour increased, the sensations of pricking and itching become aggravated to a sense of constriction, or even severe stabbing, extremely distressing to the patient. The morbid product which essentially constituted the keloid of Alibert took place in the subcutaneous areolar tissue between the cutis and adipose membrane. Females from the age of eighteen to thirty-five were most frequently the subject of the disease. The situation of these tumours was usually near the sternum, or between or upon the mammæ. It was, however, found sometimes in the male. Alibert considered the disease in some way allied to cancer. Several cases were described, and a number of beautifully-executed models and drawings illustrated the form of the disease. The author then entered upon the subject of true keloid,—a form of disease leading to much more serious consequences than the keloid of Alibert. With the exception of a slight allusion to it by Dr. Coley, the disease had not been noticed or described. Like the above-described disease, it had its seat in the subcutaneous cellular tissue, and was first indicated by a white patch or opacity of the integument, of roundish-oval shape, varying in size from a silver penny to a crown-piece, scarcely elevated above the surrounding skin, and unattended by any local pain or other inconvenience; a more or less vivid zone of redness surrounded the whole patch, attesting the presence of vascular activity in the parts beneath. When the patch had attained a larger diameter, its surface presented a faint yellowish or brownish tint, communicating to the spot a mottled appearance. With the progress of the disease a hardness and rigidity of the part occurred, accompanied by itching and a sense of pain and constriction; and when situated on the extremities, the hardness might be traced along the course of the tendons, interfering with the motions of the limb, imparting a sense as of hide-bound, and oftentimes distorting the gait, and making the patient a cripple for life. As the disorder proceeded, a change of colour took place, becoming reddish, yellowish, or of a dead-leaf colour. The cutis manifested a disposition to superficial ulceration, and when not excoriated, there were often seen tubercular or nodular elevations, the whole strongly resembling the remains of an extensive and imperfectly cicatrised burn. From some part of the boundary of the discoloured skin might now and then be seen reddish claw-like processes extending into the

sounder integument, and bearing a very exact resemblance to those mentioned as characteristic of the keloid of Alibert. The pain and uneasiness of the part, the red zone surrounding the patch, the injection of the neighbouring veins, justified the inference that the morbid process was one very nearly allied to inflammation, probably of the strumous kind. This form of the disease was illustrated by a number of cases, models, and drawings. The author did not deem it expedient to dwell upon the various remedies which had been employed, but with the exception of iodine none seemed to make the slightest impression either upon the appearance or progress of the disorder.

2. At the previous meeting of the Medical and Chirurgical Society, to that on which Dr. Addison had made his communication, Dr. Alderson related the particulars of a case of skin disease accompanied with partial hypertrophy of the mammary gland, which appears to be of the nature of the disease which has just been called "true keloid."

The subject of this case was a young lady, aged twenty, of fair complexion, light-blue eyes, and fair hair. When first seen, the left breast presented a diseased surface, at the upper part, to the extent of about four inches in length, by about an inch and three-quarters in width. The appearances presented were, a perfectly smooth, polished surface, of an opaque, yellowish-white colour, like polished vellum or ivory; the margin of the diseased portion was defined by a strongly-marked border of injected vessels, but on the polished surface no vascularity could be perceived; there was no exudation whatever on any part of the breast; no crust or scurf of any kind. This state of the skin had existed for nearly a twelvemonth. The breast itself was larger than its fellow, and when handled presented several hard, resisting, nodulated tumours. A small, enlarged gland was situated in the left axilla, to which an absorbent vessel could be traced from the breast. No pain was experienced by the patient in the affected part. Mr. Hodgson was consulted on the case, and was led to pronounce an unfavorable prognosis, as it bore some resemblance to a case which ultimately displayed itself as carcinoma. Sir Benjamin Brodie subsequently was consulted, and in his large experience could only adduce a single similar case, in which the process of cure had been effected by throwing off successive layers of diseased skin, during which the extent of surface became continually reduced, the skin beneath ultimately assuming its natural aspect. He thought the disease less allied to carcinoma than to dry gangrene. The plan of treatment had hitherto been alkaline alteratives, with local application of iodine. The general treatment was but little varied: an alterative every other night, with the liquor potassæ in liquid extract of sarsaparilla, and glycerine was directed to be rubbed on the part night and morning. After six months the surface of the breast had returned to its natural state, the patient stating that it faded gradually away. The author concluded with some remarks on the probable pathology of this peculiar disease of the skin.

ART. 64.—*On Insect Larvæ under the Human Skin.* By Dr. LONDRES.

(Nederland Weekbl., July, 1852; and Edinb. Med. Journal, April, 1854.)

According to this author, there are often found in Surinam, below the skin, both of Europeans and negroes, the larvæ of an insect called there the "mosquito-worm," which resembles closely the *Oestrus Bovis*. These occasion furunculoid circumscribed tumors, the size of a nutmeg, which discharge a bloody serum through a small opening at the surface. These tumors are very painful, and, if not subjected to treatment, they form open ulcers. The treatment adopted is blowing tobacco smoke into the tumor through the aperture, and thereafter squeezing it, which causes the larvæ to crawl out of its centre. Dr. L. found them rapidly cured by free incisions. He cannot yet determine whether these larvæ belong to the *Oestrus Bovis* species, or whether they are different—the *Oestrus Hominis*. Howship mentioned to the Medical and Chirurgical Society of London, the case of a soldier from Surinam, who had the *Oestrus Hominis* in his shoulder, and of a youth in Santa Anna, in South America, in whose scrotum they were discovered. Baron von Humboldt also saw Indians in South America, whose abdomens were covered with small tumors, which he conceived to be due to the subcutaneous presence of the larvæ of the *Oestrus*.

ART. 65.—*On the Cure of the Itch.* By Lieut.-Colonel JEBB, C.B.

(Medical Times and Gazette, April 8, 1854.)

The following extract is from the 'Report on the Discipline and Management of the Military Prisons in 1852' by Lieut.-Colonel Jebb, C.B. (Blue-Book.)

"Each case of itch during the past year has been treated according to the plan formerly adverted to, viz., friction of the body with brick-dust, so as to expose the *acari* to the sulphur ointment, which is then well rubbed in for half-an-hour, and after this the man is subjected to a good ablution of soap and water. The whole time occupied by this proceeding is less than an hour and a half, and perfect cure resulted in each instance. Under the old plan the men were placed for three days in the itch cell, wrapped up in blankets, smeared with sulphur ointment; and a less period did not kill the *acari*."

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

(A) CONCERNING TUMOURS.

ART. 66.—*On the Relation between Goitre and Tuberculosis.*

By Dr. HAMBURGER.

(*Vierteljahrsschrift für die Prakt. Heilk.*, 1853; and *Gaz. Méd. de Paris*, Dec. 31, 1853.)

Hoping to arrive at some definite results respecting the relation existing between these two maladies, the author has examined the bodies of 100 goitrous persons. Out of this number he finds hypertrophy of the heart in 9 instances, pulmonary emphysema in 28, chronic laryngitis in 3, constriction of the larynx in 2, and tubercle in 19; half the thorax depressed and contracted in consequence of a former pleurisy in 5, and the lungs healthy in the remaining 34.

These cases are given in detail, particularly those of the persons affected with tuberculosis, and the consideration of the whole number is supposed to justify these conclusions.

1. That goitre and tubercle are not unfrequently met with in the same person.
2. That when goitre and tubercle are associated, the tubercle remains stationary, and can only be detected by its physical signs.
3. That goitre may be developed in a person affected with tubercle, but not tubercle in a goitrous person.
4. That tubercle existing in a goitrous person never passes into a state of softening, and that the goitre disappears more or less if phthisis should become developed.

ART. 67.—*The Results of Surgical Operations in Malignant Disease.* By Dr. GROSS, of Louisville, Kentucky.

(*Transactions of the American Medical Association*, vol. iv, 1853.)

In his report on this subject, Dr. Gross reviews with considerable care the existing evidence, American and European, and his conclusions are—

- 1st. That cancerous affections, particularly those of the mammary gland, have always, with a few rare exceptions, been regarded by practitioners as incurable by the knife and escharotics. This opinion, commencing with Hippocrates, has prevailed from the earliest records of the profession to the present moment. Nature never cures a disease of the kind; nor can this be effected by any medicine or internal remedies known to the profession.

2d. That excision, however early and thoroughly executed, is nearly always, in genuine cancer, followed by relapse, at a period varying from a few weeks to several months from the time of the operation.

3d. That nearly all practitioners, from the time of Hippocrates to the present day, have been, and are still averse to any operation for the removal of cancerous tumors, after the establishment of ulceration, rapid growth, firm adhesion, organic change in the skin, lymphatic invasion, the cancerous dyscracy, or serious constitutional derangements, on the ground that, if had recourse to, under these circumstances, the malady almost inevitably recurs in a very short time, and frequently destroys the patient more rapidly than when it is permitted to pursue its own course.

4th. That in all cases of *acute carcinoma*, or, in other words, in all cases of this disease, attended with very rapid development and great bulk of the tumor, extirpation is improper and unjustifiable, inasmuch as it will only tend to expedite the fatal result, which, under such circumstances, always takes place in a very short time.

5th. That all operations performed for the removal of encephaloid cancer and its different varieties, are more certainly followed by rapid relapse than operations performed upon scirrhus or hard cancer.

6th. That in nearly all the operations for cancerous diseases, hitherto reported, the history has been imperfectly presented, being deficient in the details which are necessary to a complete and thorough understanding of the subject in each case. This remark is particularly true in reference to the diagnosis of the malady, the minute examination of the morbid stricture, and the history of the case after the operation, as to the period of relapse, the time and nature of the patient's death, and the result of the post-mortem examination.

7th. That cancerous affections of the lip and skin, now usually described under the name of *cancroid diseases*, are less liable to relapse after extirpation than genuine cancerous maladies, or those which are characterised by the existence of the true cancer-cell and cancer-juice.

8th. That, although practitioners have always been aware, from the earliest professional records, of the great liability of cancer to relapse after extirpation, a great majority of them have always been, and still are, in favour of operation in the early stage of the disease, especially in scirrhus, before the tumor has made much progress, or before there is any disease of the lymphatic ganglions, or evidence of the cancerous cachexy.

9th. That many cases of tumors, especially tumors of the breast and testicle, supposed to be cancerous, are in reality not cancerous, but of a benign character, and consequently, readily curable by ablation, whether effected by the knife or by escharotics. It is to this circumstance that we must ascribe the astonishing success which is said to have attended the practice of Hill of Scotland, North of England, and Flajani of Italy.

10th. That all operators insist upon the most thorough excision possible; removing not merely the diseased mass, but also a portion of the surrounding and apparently healthy tissues, as well as all enlarged and indurated ganglions.

11th. That the practice has always prevailed and still obtains, to save, if possible, a sufficient amount of healthy integument to cover the wound, and to unite, if possible, the wound by the first intention; on the ground that these precautions will tend much to retard, if not to prevent, a recurrence of the disease.

12th. That much stress is laid by writers upon a properly-regulated diet, and attention to the bowels and secretions after operation, as means of retarding and preventing relapse.

13th. That there is no remedy, medicine, or method of treatment which has the power, so far as we are enabled to judge of its virtues, of preventing the reproduction of the morbid action after operation, no matter how early or how thoroughly it may be performed.

14th. That life has occasionally been prolonged and even saved by operation after relapse, as in some of the remarkable cases mentioned in a previous part of this report; but that, as a general rule, such a procedure is as incompetent to effect a permanent cure as a first extirpation.

ART. 68.—*On the Treatment of Cancer by Congelation.*

By Dr. JAMES ARNOTT.

(*Lancet*, April 15 and May 6, 1854.)

We have already noticed (*vide* 'Abstract,' vol. vii, p. 253, and vol. ix, p. 1) Dr. Arnott's views respecting the remedial value of cold in several maladies, and now we recur to the subject in order to notice the application of this means to the treatment of cancer, and of relating two cases which are given in illustration—cases which are stated to be merely examples (and not the most favorable) of several of the kind which have come under the author's notice.

"The use of cold in cancer is by no means a new proceeding; no practice is of older date, or has been in more general use. All that I have done is to exhibit the remedy in a greater dose than it had previously been exhibited. Having ascertained the important facts that the circulation of blood in a morbid part may be temporarily suspended by intense cold, without in the slightest degree endangering the vitality of the part, and that such a suspension, and other concomitant effects of this degree of cold, are highly curative in inflammatory and neuralgic affections, I merely applied it in cancer to arrest the inflammation accompanying the disease, on which the rapidity of its progress, and many of its most distressing consequences, depend, and at the same time to assuage the pain by its permanently benumbing or narcotic property. I at first expected only to find a substitute for the very inefficient and otherwise objectionable remedies of inflammation and pain in common use in cancer; and had congelation only fulfilled these indications, it would have been very valuable; but experience has shown that it has still more powerful effects in this disease, although, from the unknown nature of cancer, it is as difficult to account for these as it is to explain how the exhibition of bark or quinine cures an ague. Professor Bennett, of Edinburgh, expresses (in his able work on 'Cancer') the opinion, that, 'were it possible to

bring down the temperature of an entire cancerous growth below the vegetating point, we must inevitably kill it ;' and it is not improbable that to such destruction of the vitality of the cancer-cells—to the killing of these parasitic animalcules—the curative influence of congelation may be chiefly due. But however satisfactory it might be to ascertain the mode of operation of the remedy—whether it acts in this manner, or by some unknown change produced in the functions of the vessels or nerves of the part, in addition to its obvious power of suppressing inflammation and assuaging pain—the chief point is to know whether it has great control over cancer, and this can be ascertained only by experience."

In evidence of its possession of such power, Dr. Arnott then adduces two cases.

CASE 1.—I saw this patient during a visit which I made to the north of Scotland in the spring of 1852. I learned from her that there had been a hard and painful swelling in her breast for upwards of two years; that lotions, ointments, and other remedies had been tried for its removal in vain; and that since she had refused to have the breast amputated, about nine months previously, she had consulted no medical man on the subject, and had only used the mildest applications.

The patient was about fifty years of age. Her general health was not good, but much of the derangement of the stomach and other organs was attributed to the increasing and intense anxiety she laboured under on account of the affection of her breast. On examining this, I found a hard tumour of considerable size, or what appeared to be two contiguous tumours; the nipple was considerably retracted, and there was a slight morbid exudation from it; the pain was of a plunging character, and of such frequent recurrence as much to disturb her night's rest. The disease was evidently gradually progressing.

I applied a mixture of ice and salt for about five minutes on two occasions, with only about a week's interval between them, as I was anxious, before leaving Inverness, to make a second application in the presence of her husband, who was to continue the remedy, and to whom accordingly I gave the necessary instructions respecting it.

The results of his administration of the remedy were communicated to me from time to time, and the following are extracts from his letters:—

"May 25th, 1852.—In writing to you I feel intense pleasure in having to communicate that Mrs. M—— has been regularly and progressively improving since you saw her. We have got the caddis, goldbeaters' skin, oil skin, &c., and the gutta percha frames for the net and bladder have been nicely formed. In fact we have got everything you suggested, so that our apparatus and accessories are complete. We get the ice now daily, if necessary, and the applications have had the most desirable effect. * * * There is no internal pain whatever; the tumours are at least decreased *two thirds*, and she sleeps well and comfortably at night. Everything is very encouraging, and as you could wish."

"May 31st, 1852.—I am truly happy to say that Mrs. M——'s breast exhibits a daily improvement, and there is consequently the greatest encouragement for perseverance in the same course. The *severe* application of the ice and salt has not been tried since you left, but the other (the milder) has been several times, and always with the best results. We shall try the severe application in a day or two however."

"June 14th, 1852.—A *severe* application of the ice and salt was made on

Wednesday, and although kept on for four minutes, and until the colour of the skin became entirely changed, it produced no blistering. The bladder with iced water was kept on for half an hour afterwards, and there has been great ease since from occasional applications in that way. The tumours are perceptibly decreasing."

It is necessary, in explanation of this quotation, to state that the bladder with iced water, applied after the congelation, was employed to prevent the smarting that would otherwise occur from the too-speedy return of the natural temperature of the part. This would otherwise be sometimes severe; at other times, the patient scarcely complains of it, and dispenses with the application of the bladder. The description of the effects of the frigorific on the appearance of the skin would show that the materials had not been properly prepared or mixed, as when they are so, the skin is generally *immediately* blanched by them.

"July 14th, 1852.—The tumour continues very evidently, though slowly, to lessen in size and hardness. The general health I consider to be in a better condition than when you saw Mrs. M—. The ice and salt has been *strongly* applied four times since you left Inverness."

"27th.—I now write, owing to our being disappointed of ice as calculated on when I last wrote. Mr. —, of the —, who always supplied us, has sustained a severe loss by the man who had the charge of the ice-house leaving the door open for three days, so that the whole stock was dissolved, and there is not a bit to be got in the north."

After mentioning some details respecting the difficulty of procuring ice, (which might have been artificially made by a chemist at small expense,) he continues—

"I am glad to say, that the long interval has not been so prejudicial to the breast as I dreaded."

As matters appeared to my correspondent to go on in a satisfactory state, I did not again hear from him until after a lapse of nearly a year.

"June 16th, 1853.—The ice and salt has not been applied since I last wrote to you. There has, however, been no relapsing. The nipple has sunk or reeeded considerably since you saw it, but the tumour has almost disappeared—that is, there is very little hardness or tenderness remaining. There is, however, a hollow or kind of indentation across the breast, near the nipple, but not the slightest indication of a tendency to suppuration. There is, also, a frequent feeling of shooting or twinging pain."

In replying to this letter, I expressed regret that so long an interval had been allowed to elapse without using congelation, as there appeared reason to fear that a remnant of the disease was still present; and, in the next communication from the husband of my patient (the last which I have received), dated Nov. 15th, he mentions that the ice and salt had again been once applied. The only interesting circumstances noticed in this letter, respecting the condition of the breast, are, that "there is no hardness or tumour;" although there was occasional annoyance from the sticking of the lint to the skin in consequence of the "exudation of a gummy substance close round, but, so far as I can see, not out of the nipple."

CASE 2.—It was early in May of last year that I was consulted on this case. The patient had previously left her residence in Kent to ask the opinion of Mr. Lawrence, who not only agreed with her usual medical attendant that the tumour in the breast was cancer, but said that unless she immediately submitted to its excision, it might prove fatal within six months. She preferred the treatment by congelation. On examining the breast, I found a hard, flattened, hemispherical swelling, of about three inches

diameter, knotted on its surface, contiguous with, but not adhering to the skin, excepting at the nipple, which was retracted and slightly ulcerated. There was at times a lancinating pain. The disease had existed more than two years, and although the usual routine had been had recourse to, no kind of treatment had appeared to be of any service. The disease gradually but steadily progressed.

The frigorific mixture of ice and salt was applied for about four minutes, the usual precautions being taken to prevent the smarting that would otherwise take place on the return of sensibility to the parts which had been congealed. A similar application was repeated about every month by her medical attendant in the country: and after about six such applications I again received a visit. The tumour appeared to be smaller than when I first saw it, the decrease being chiefly in its thickness; and in other respects there was great improvement. She continued the same plan of treatment, and the principal results are recorded in the following extracts from a letter which I have lately received from her, dated April 6th.

The substance of this letter is, that the tumour continues of nearly the same dimensions; though it appears to be a little longer, it is less thick. She has not "for the last four months known what a bad night is, being always free from pain;" though during the day there is "at times, three or four, or perhaps more, transient pains, while, at other times, she passes some days without any pain." Her "general health is very good, and is kept good by regular exercise in the open air." As I had expressed the opinion that she should make longer intervals between the applications than a month, in order to ascertain whether the tumour was not now merely a lifeless mass, like a bullet in the flesh, which might give occasional uneasiness, particularly when the mind was intent on the subject, she states, in reply—"Five weeks have intervened between the last applications; I have these renewed, because, while I feel there is life in the tumour, I think they are necessary." She concludes a letter written a month previously (March 4th) by the expression of a wish "that every sufferer from the same disease were as happily delivered from the effects of cancer as she has been by this remedy."

As in almost every case which I have treated by congelation a certain degree of hardness and swelling remained after the disappearance of other symptoms, it is important to investigate the cause of this. On the supposition that cancer is essentially a congeries of living cells, we may reasonably think that the absorption of these, after their vitality has been destroyed, must be slow, if it take place at all; and perhaps the irritation that has induced patients to apply for the frigorific application afresh, may have proceeded from the presence of this inert mass of dead cancer-cells. I should be sorry, however, to think that the absorption of these never takes place, because in a voluminous congeries of cells it were difficult to understand how the cold could reach the inner surface of the mass without the absorption of the more superficial layers having previously taken place after the extinction of the life of the cells constituting them; unless, indeed, the layers of dead cells were to form so good a conductor as scarcely to resist its passage. But in their living state, the tumour in which they are interspersed is so dense and so little intermixed with blood-vessels, as to form a substance easily permeable by cold—as easily, perhaps, as cystic tumours are, the fluid contents of which I have congealed in applying cold to them, as an anæsthetic, previous to their excision.

(B) CONCERNING WOUNDS AND ULCERS.

ART. 69.—*Stimulants in Snake-bites.* By (1) Dr. LOWNDES, Assistant Surgeon H.E.I.C.S.; and (2) Dr. BLACKBURN.

(1) *Edinburgh Med. Journal*, Feb. 1854; (2) *American Lancet and Dublin Med. Press*, Sept. 28, 1853.)

Both these cases are valuable, as furnishing additional evidence of the remedial power of stimulants under these circumstances.

1. *Dr. Lowndes' case.*—Shekapoor, Upper Scinde, 18th August, 1852.

A sepoy of 2d Belooch battalion, was bitten by a snake, said by the natives to be of the cobra species. He came to the hospital at about 5.30 or 6.0 a.m., next morning.

General Appearance.—Slight, but well made. About 25 years of age.

Symptoms.—Marks of fangs of snake a little anterior and inferior to internal malleolus of right ankle. Wounds not bleeding at all, nor had any application been used, a ligature only having been tied round the leg a little above the ankle. Countenance natural, and at this time no expression of anxiety. No pain anywhere, except a slight pricking in the wound itself. Blood-spitting had commenced about three or four hours after the snake bite, and still continued. This was the only abnormal symptom; his pulse natural and breathing regular. The blood that was spat up had no tendency to coagulate, and exactly resembled that mentioned in the former case.

Treatment.—I made several small incisions—one to connect the two fang wounds, and one on either side, where there appeared some slight laceration. A cupping-glass was exhausted and placed over the wound; it was soon half filled with blood without tendency to coagulation. This had scarcely been done when the officer commanding the regiment asked if I had any objection to allow two sepoys, who said they could cure snake bites, to try to cure the man. I at once consented, only resolving to watch the case narrowly. I merely applied caustic to stop the bleeding. These natives first applied a poultice of small leaves (species of tree unknown) to the wound, and gave the patient a dose of croton oil seed. This latter produced considerable vomiting and much purging. 6 p.m. I again saw the patient; spitting of blood still continued; countenance expressed some anxiety; pulse about 96, full. Bleeding had recommenced from cut in front, probably to the extent of 3vj or 3vij. Still the same sort of blood. I left directions to be instantly summoned on the slightest change. 2 a.m. I was hastily called, as the patient was much worse. I found on my arrival that about half an hour before he had become weaker and weaker, and then almost suddenly had become insensible. I found him perfectly insensible; extremities cold and corpse-like up to upper part of his thighs and arm-pits. No pulsation could be felt at the wrist, nor could the beating of the heart be distinguished through the parietes of the chest. The action of the heart could only be recognised by pushing the hand up behind the sternum, and then a faint thrill could alone be recognised, much resembling the cardiac thrill felt in the same way on a new-born infant. The breathing could be recognised by placing the hand on the abdomen, which was much collapsed from purging by croton seeds. Wounds in foot still continued bleeding, but not very much; spitting of blood had not occurred for about two hours before insensibility came on.

I ordered grs. v of bicarbonate of ammonia to be at once given, and repeated in five minutes; also a large enema of mustard and water, with ʒij of ammoniated tinct. of valerian, and a large mustard poultice to be placed

on the cardiac region. Men were set to rub the extremities diligently. For the first quarter of an hour little or no change could be perceived. The enema of mustard and valerian was returned. The following mixture was then ordered:—℞ Chloroform 3j; arack (native spirit) 3ij; camphor mixture 3iij. Mix, and take 3j every ten minutes.

The mustard poultice was of little benefit, as the mustard was not sufficiently finely ground, being prepared on the spot. After two doses of the mixture, some improvement was perceptible. I thought I felt a pulsation at the wrist, intermitting, and very faint at first. At this time 3ij of the ammoniated tincture of valerian were given with warm water, as an enema, the mixture being still continued. In about two hours the dangerous symptoms had subsided, warmth had returned to the extremities, and the pulse was steady and regular. The mixture was gradually discontinued. The blood-spitting did not return. The patient remained in the hospital for a few days, until the wounds had healed, and he was then discharged well.

2. *Dr. Blackburn's case.*—I was called a few days since to visit a negress some eight miles from my office, who had been bitten by a large rattlesnake. I saw her eight hours after the wound had been inflicted. The snake struck her on the ankle. I found the patient deathly sick, cold rigors running over her; pulse 120, small, quick, and thread-like; the entire left leg was swollen to twice its normal size; in a word, I thought she was moribund. She complained of no pain in the affected limb, and even insisted that she had not been bitten. I commenced giving her corn-whiskey by the gill, and pushed the remedy until she had taken *two quarts* within twelve hours, when, discovering some symptoms of inebriation, it was discontinued. In the meantime, I applied warm emollient poultices to the wound, after having applied a cupping-glass for one hour. In three days this negress was well and at her usual labour. She took no medicine save the whiskey, and on the second day a dose of Epsom salts.

The question here presents itself, would the usual remedies have been attended with success in this case? Had I not considered her in a moribund condition, she doubtless would have been treated, not *empirically*, but *scientifically*. I will remark, however, that this is the *fourth* case that I have treated successfully with corn-whiskey, occurring from the poison of venomous reptiles. I had oftentimes seen ardent spirits recommended in snake-bites prior to my having prescribed it. My confidence in the remedy never was fully established until witnessing the rash act of a man while in a beastly state of inebriation. He caught a large rattlesnake and held it, notwithstanding he was bitten several times, until the snake becoming so greatly incensed bit itself, which soon relieved it from its confinement. The reptile speedily died. The man never complained of the least pain or uneasiness.

ART. 70.—*On the use of Collodion in Burns.* By Dr. BLUMHARDT.

(*Württemberg Corres. Bl.*, No. 56; and *Edinb. Medical Journal*, April, 1854.)

This fluid, when applied to burns, promotes healing and prevents suppuration. Blumhardt has tried it, with great success, in three cases, one of them caused by explosion of gunpowder, and two by the ignition of spirits of wine, where the breast, neck, face, and hands were all severely scorched. Collodion was applied to the skin an hour and a half after the accident, by a hair-pencil; the redness, pain, and swelling, were thereby diminished, and the patients soon experienced

no inconvenience save the tension occasioned by the firmly-adherent pellicle. The inflammation completely subsided, and the recovery was rapid. He considers the collodion to act beneficially in two ways; *first*, by affording a safe protective covering to the sensitive cutis, and *second*, by giving a uniform support to the part, and relieving the capillaries from all undue distension.

ART. 71.—*On the Revival of the Ancient Treatment of the Callous Ulcer by Excision of the Margin.* By Mr. HAINWORTH, late Surgeon to the Lincoln Dispensary, and City Gaol.

(*Medical Times and Gazette*, Jan. 21 and 28, 1854.)

In recommending the revival of this operation, which appears to have been the approved mode of treating the callous ulcer down to the close of the last century, Mr. Hainworth reviews the opinions entertained in ancient and modern days of the circumstances which occasion the acknowledged difficulty in the treatment of this form of ulcer, and endeavours to show that the primary obstacle to all successful treatment is the presence of a solid ring of compact and indurated effete cuticle; that the necessary preliminary curative measure is the removal of this ring; and that the safest, the mildest, and yet the most speedy and efficacious method of attaining this end is the excision of the callous margin, strictly confining this operation to the paring or shaving off the accumulated cuticle without wounding the cutis.

"For a practical knowledge of this operation," he proceeds, "I am happy to acknowledge my obligation to Mr. Hewson, one of the Surgeons of the Lincoln County Hospital, who told me, that he had acquired his familiarity with it from a house-surgeon of that institution, whose thirty years' tenure of office dated from the commencement of the current century.

"For the description and other remarks I alone am responsible.

"Since the foregoing remarks were penned, I have learned, with much satisfaction, that the plan has been fairly tested at St. Thomas's Hospital within the last few months. When visiting that institution, last spring, I mentioned the subject to Mr. South, who appeared surprised at the description given of the simplicity and painlessness of the operation, and expressed his willingness to give it a trial. The result of that trial has been most gratifying. Mr. South declares 'the success has been admirable.' He kindly requested Mr. Walter Tyrrell to furnish me with the notes of some cases, and accordingly I have been favoured with the two following:"

David Brooks, æt. 30, labourer, was admitted into Henry's ward, St. Thomas's Hospital, August 14th, 1853. He has an ulcer on the right leg, consequent on an injury sustained ten years ago, since which time it has never entirely healed. He has lived very badly, being at times half starved. Has usually worked among the barges on the river, being often a considerable time in the water and mud. Numerous remedies were applied to the sore, with little or no effect, the hardened cuticle appearing to form a barrier to the cicatrization. At last Mr. South determined to try the effect of paring

the edges of the ulcer. This was done several times, and the sore soon showed a healing margin. Before the sore was quite healed, this patient was discharged, in consequence of a deficiency of beds. He then became an out-patient, and then was again admitted into the hospital; but of his subsequent progress no notes were taken. There was no doubt of the benefit ensuing on the paring of the edges while he was in Henry's ward.

T. Driscoll, æt. 40, an Irish labourer, was admitted into George's ward, St. Thomas's Hospital, on Tuesday, Sept. 13, 1853. He has had, on the front of the right leg, an ulcer for the last sixteen years. It is now about the size of a man's hand; the edges are raised and callous, and the surrounding cuticle is much thickened; the surface of the sore is glassy, but at the edges are a few unhealthy granulations. He suffers little or no pain, unless from injury; the discharge is scanty, thin, and unhealthy. Mr. South directed the application of linseed poultice and the dilute nitric acid lotion. After a little time the granulations became more numerous and healthy, but the edges showed little inclination to heal, the white callous ridge remaining as on admission. About three weeks after admission, Mr. South directed the edges to be pared. Hardened cuticle, in many parts of some thickness, was removed; this was done with little or no pain to the patient and the bleeding was inconsiderable. In some parts, where the edges were not so hard, simple scrapings were required. At the end of a week a manifest improvement had taken place; a thin healing margin extended towards the centre of the sore; the same applications were continued. The paring process was repeated several times at intervals of about eight or ten days. As soon as the granulations rose to the level of the surrounding healthy parts, simple ointment and bandage were applied, the edges being now perfectly natural. The sore healed rapidly, and, when the patient left the hospital in December, was not larger than a half-crown. He afterwards attended as an out-patient, bandages being applied till the sore was entirely healed.

(C) CONCERNING DISEASE OF THE BLOOD-VESSELS.

ART. 72.—*Treatment of Aneurism by Compression.* By various Surgeons.

(*Medical Times and Gazette*, Oct. 29, and Nov. 5 and 12, 1853.)

Twenty-five cases of aneurism, recently treated in this manner, in various metropolitan and provincial hospitals, are here given—21 of this number being idiopathic (19 in the popliteal, 3 in the femoral, and 1 in the radial); and the remaining two, traumatic (one in the femoral, and the other in the anterior tibial.)

Out of these 23 cases, compression succeeded in 14 cases, and failed in 9. Where the operation succeeded, the time occupied before the tumor became solidified was 3 days in 1 case, 4 days in 1, 8 days in 3, 11 days in 1, 15 days in 1, 21 days in 1, 31 days in 1, 6½ weeks in 1, 10 weeks in 2, 15 weeks in 1, and 23 weeks in 1. The failure of the operation was owing to pain and constitutional disturbance, or to œdema and erysipelas of the limb. Of these unsuccessful cases, the aneurism was seated in the popliteal artery in 6, in the femoral in 2, in the cardiac in 1. The ligature was resorted to in all these nine cases, and by its means six were cured. Of the remaining three, two died, (one from suppuration of the sac and knee joint, the other from

gangrene, consequent upon injury to the femoral vein during the operation), and the remaining one was unrelieved. This latter case was a traumatic aneurism of the femoral artery, and it presented several peculiarities which were unfavorable to the cure.

It must be observed, that in one of the cases which died, the limb had become very œdematous, in consequence of the previous employment of the compressor, and the patient had moreover suffered greatly from pain and want of rest.

The instrument employed was the one generally used in Dublin (Cartes'), either exclusively, or intermitted by the occasional employment of the pressure of the hand, or of a weight placed on the trunk of the artery.

The degree of suffering experienced by the patient was very variable; but in some it was very inconsiderable.

ART. 73.—*On the Treatment of Aneurism by Injections of Perchloride of Iron.* By MM. VELPEAU, MALGAIGNE, and others.

(*Rév. Méd. Chir. de Paris*, Nov., Dec., 1853, and Jan., 1854.)

Since our former notices of this new mode of treating aneurism (*v.* "Abstract," vol. xvii, p. 292, and vol. xviii, p. 133), a paper has been read upon the subject before the Parisian Academy of Medicine by M. Malgaigne. In this paper, and in the subsequent discussions (which extended over three meetings of the Academy), all the facts bearing upon the question are canvassed, and the general impression appeared to be, that the operation ought not to be performed on man until its effect had been more clearly determined by experiments on the lower animals. M. Malgaigne is very hostile to the operation; and M. Roux thought its importance had been exaggerated, and that it was not to be compared with the several operations already in use for the treatment of aneurism.

Our readers must form their own opinion from the cases reported below, and from those reported in our former volumes.

1. *M. Serre's case.*—This was a case of aneurism of the brachial at the bend of the elbow. The case is not very explicitly related, but it appears that the sac inflamed and sloughed, that the slough separated, and the patient recovered. The inflammation was so violent that the vitality of the limb, and even the life of the patient were seriously endangered. The account of this case was published on the 9th of May.

2. ———'s case.—This was the case of a mason, who had aneurism at the bend of the elbow, resulting from bleeding. The operation was performed by a former pupil of M. Malgaigne, whose name is not given. Five drops of the solution were injected by means of the graduated syringe of Pravaz, and then, pulsation still continuing, five other drops. Immediately the pulsation ceased in the tumor and at the wrist, violent pain seized upon the whole arm, the hand became cool and purple. The day following, the thumb was gangrenous. Forty-eight hours after the operation the gangrene had extended to the whole of the forearm, when the patient was placed under M. Malgaigne's care. Nine days later amputation was performed, but it was too late to save the patient, who died after a very slight attempt to rally.

3. *M. Velpeau's case.*—In this case the patient was a young man suffering, like the two former patients, from false aneurism at the bend of the elbow. The aneurism, which was as large as a hen's egg, had existed for three months. Eight drops of the solution were injected on the 21st of May, pressure having first been applied both above and below the tumour. The effect of the injection seemed to be the coagulation of the blood, but when the pressure was removed from the arterial trunk, pulsation returned both in the tumour and at the wrist. On the 11th of June, no change having taken place, the operation was repeated, and ten drops of the perchloride were injected into the sac. This, however, did not produce the intended results, and as the tumor went on increasing in size, and as signs of inflammation became evident, M. Velpeau abandoned the syringe, and tied the main artery in the middle of the upper arm. This was on the 18th of June; eight days afterwards one of the wounds made by the trocar for the passage of the injection opened, and gave exit to a considerable quantity of blackish fluid. A week later, this opening had become much larger, and a small quantity of dark detritus, mixed with pus, had passed through it; some blood oozing out at times. The day following, sufficient blood escaped to cause syncope. M. Velpeau then made a free opening into the sac, and introduced pledgets of lint which had been soaked in the solution of the perchloride, and this treatment was successful. The patient left the hospital (la Charité) well, on the 4th of August.

4. *M. Lenoir's case.*—This was the case of a patient in the Hôpital Necker, suffering from popliteal aneurism of the size of a hen's egg. In the first instance, twelve drops of the perchloride were injected, but without result. Twelve days later, sixteen drops were injected, and equally without result. Ascribing the failure to the fault of the solution, a solution prepared by M. Dubuisson, was procured. Of this solution six drops were injected on the 18th of June, and, finding the pulsation unabated, these were immediately followed by six other drops. On the 23d the patient began to suffer from rigors and pain in the ham, this pain ended in intense inflammation, and in five days the patient was dead. After death the sac of the aneurism was found to be filled with a loosely adherent clot; some blood was effused in the neighbouring textures, and the femoral vein was full of sanious fluid.

5. *M. Soulé's case.*—This, which was also a case of popliteal aneurism, was treated in the hospital at Bordeaux, on the 26th of July. Six drops were injected in the first instance, and, five days later, seven drops. Very severe inflammation set up in the aneurism, but the blood did not coagulate, and the end was, that M. Soulé tied the femoral, and the patient recovered.

6. *M. Jobert's case.*—This case is not yet published, but it is alluded to by M. Malgaigne as one in which the limb became gangrenous, and the patient died.

7. *M. Malgaigne's case.*—This was a case of false aneurism at the bend of the elbow, resulting from a cut by a piece of glass. The median nerve appears to have been divided in the accident, for there was complete loss of sensibility in the parts supplied by its filaments. Still the radial pulse was perceptible. This case was first treated by compression, and under this treatment the wound in the skin healed, but a pulsating and growing tumor formed at the seat of injury. Several weeks afterwards, when the sensibility had returned to the numbed parts, M. Malgaigne injected six drops of the perchloride solution. This was on the 14th of September. No change took place in the tumour. Four days later, violent pain began to be felt in the tumour, and contemporaneously with this event, the aneurismal pulsation became more obscure. Presently this pain subsided. A week later the violent pain returned, accompanied with a marked sense of tearing; the pulsation also returned, and the

tumour became swollen and red. Thinking rupture of the sac about to happen, M. Malgaigne tied the humoral artery. After this the tumour underwent no diminution, but the active symptoms immediately subsided. On the 13th of October an incision was made into the tumour, and a large quantity of dark blood evacuated. Afterwards suppuration ensued, and a large clot was removed by the forceps. In the end the patient recovered.

8. *M. Valette's case*.—This occurred in the Hôtel Dieu, of Lyons, on the 14th of July. It was, like several of the preceding cases, a small false aneurism resulting from bleeding, two months previously. Pressure having been applied above and below the sac, fifteen drops of the solution were injected. The operation excited considerable pain, and this continued more or less throughout the day. The pressure was continued for some time after the injection, that on the brachial for a full hour, and that on the forearm for about a quarter of that time. At the close of the day the fingers were cold, and pulsation could not be detected in the radial, and but feebly in the ulnar artery. The day following, the tumour was found to be firm and hard. From this time the tumour gradually disappeared, and when last seen the patient was well. Commenting upon this case, M. Valette recommends that the degree of concentration of the solution of the perchloride should be 30° —that a sufficient quantity shall be injected (twelve to fifteen drops to one centimetre of blood)—that the injecting syringe should be well made, and that the blood operated upon should be isolated for some time from the rest of the circulating fluid, seeing that the coagulation produced is not instantaneous, all which points are clearly very important.

It appears, also, that some additional experiments have been performed upon horses by MM. Debout and Leblanc. The solution was injected into the zygomatic and external plantar arteries, and a few drops were found to be sufficient to coagulate the blood and obliterate the artery. Considerable febrile symptoms were excited, but no serious danger resulted from these experiments.

ART. 74.—*On the Treatment of Varicose Veins by Injection of the Perchloride of Iron.* By (1) M. FOLLIN, and (2) M. DEGRANGES.

(*Edinburgh Monthly Journal*, Dec., 1853, and Jan., 1854.)

1. On the 12th of October last, M. Follin presented to the Parisian Chirurgical Society an individual in whom he had produced obliteration of the saphena vein by the method of M. Pravaz. The subject of the operation was a man 52 years of age, who had suffered for many years from a varicose ulcer of the right leg. The saphena was much dilated throughout the greater part of its extent. On the 12th of August, M. Follin injected the perchloride of iron into the vein at two points, one above, the other below the knee. Coagulation of the blood took place immediately, the vessel became obliterated, and the ulcer healed in eight days. Up to this time the cure has been permanent.

2. M. Degranges, of Lyons, has also published six cases of the same kind, in five of which the veins were obliterated without any particular accident having occurred, but in the sixth, inflammation came on, and the patient died.

ART. 75.—*On the Treatment of Nævus by the Injection of Perchloride of Iron.* By MR. COOPER FORSTER.

(*Lancet*, Dec. 24, 1853.)

Mr. Forster has tried this mode of treatment in several cases, and, in his hands, the fluid injected has been found to produce simple coagulation of the blood, with little or no inflammation. There is some increase of size in the tumours, and a hard clot is formed, which is afterwards slowly absorbed, leaving the vascular tissue of the nævus quite obliterated. Two cases are related in which the cure is now complete; the others are all in progress.

CASE 1.—Thomas H—, æt. 1½. The nævus was of the mixed variety, situated over the left frontal eminence, and had previously been subjected to treatment by the application of nitric acid without success. It was increasing slowly in size, and was about as large as a florin, and considerably raised above the level of the surrounding skin. It was injected for the first time on October 2d; no incision was, however, made, and, from the imperfection of the instrument used, it was doubtful whether any of the solution was thrown in. No effects followed; and, on the 8th, the operation, according to the plan above described, was repeated. Probably, from five to eight minims were thrown in. The tumour became hard and swollen, but no constitutional disturbance or local inflammation followed; and, within a month, the whole had disappeared, with the exception of a few small cutaneous vessels. For the cure of the latter, a pad of lead was laid over the part, secured by an elastic band, and worn for a week or two. The disease now appears to be perfectly destroyed.

CASE 2.—Louisa C—, æt. 11. The nævus was of the subcutaneous variety, situated on the right side of the neck, behind the border of the sterno-mastoid, and about the size of a small egg. Six years ago, it had been treated at an hospital by ligature; but it had subsequently enlarged to its original dimensions. On the 4th of November, the injection was practised. A free division of the diseased structure having been effected, about twenty minims of the solution were thrown in. As in the previous case, swelling and solidification were the only consequences, excepting that for three or four days afterwards the girl complained of some pain. There was no constitutional disturbance, and no inflammation in the surrounding parts. The induration has since gradually subsided, and is daily becoming less; it now feels of an almost stony hardness, and is about the size of a filbert. The tumour has quite lost its vascular character.

ART. 76.—*On the Mode of Preparing the Solution of Perchloride of Iron used in Operations on the Blood-vessels.* By Dr. PARKES.

(*Medico-Chir. Rev.*, April, 1853.)

“As it is possible that some of our readers may be disposed to experiment with this substance, in the treatment of vascular tumours, we may remind them that the strength of the solution used in France is regulated according to the degrees of Baumé’s hydrometer. Thus, a solution is said to be 45° or 33°, and so on. Now, a solution of

45° (Baumé), 55° Fahr., is of specific gravity 1·445; one of 30° is of specific gravity 1·26; one of 20° is of specific gravity 1·16; and one of 15° is of specific gravity 1·114. It has been shown by M. Burin du Buisson ('Bull. Gén. de Ther.,' t. xvi, p. 73), that to obtain a solution of 15°, it is not sufficient to add two parts of water to one of a solution at 45°, but it requires more than two and a half parts of water. He finds that 100 parts of the solution at 45° (specific gravity 1·455) contains 43 parts of perchloride of iron and 57 of water. Moreover, he states that a careful estimate of the strength of the several solutions gives this general result:—5 parts of the solution at 45° equals 10 parts at 30°, 15 parts at 20, and 20 parts at 15°—so that any given quantity of the solution at 45° may be easily converted into either of the other strengths."

ART. 77.—*A Case of Aneurism treated by the Injection of a Solution of the Acetate of the Peroxide of Iron.* By M. LUSANNA.

(Gaz. Hebdomadaire de Paris, Feb. 25, 1854.)

Acting upon a suggestion of M. Ruspini, who, after many experiments upon the effects of various coagulants, recommended a solution of the acetate of the peroxide of iron, as more efficacious and less irritating than the rest, M. Lusanna has operated upon a case of aneurism of the external maxillary artery, and reported the particulars to the Parisian Academy of Sciences.

CASE.—Marie Gelmi, æt. 22, has had for some time a growing and pulsating tumour in the substance of the left cheek, and midway between the corner of the mouth and the angle of the jaw, which tumour was clearly of an aneurismal character. The size was equal to that of a large nut. In operating upon this tumour, M. Lusanna first made an opening with a fine knife, and then injected about ten drops of a saturated solution of the salt in question, using a glass syringe for the purpose, and keeping his fingers upon the opening for some few minutes after the instrument was withdrawn. After this, it was found that the tumour had increased somewhat in size, and become firm and hard. The patient complained of pain at first, but this soon passed off. Subsequently some degree of puffiness made its appearance in the tissues surrounding the tumours, but the symptoms did not go on to inflammation. Indeed, the symptoms were so slight that the patient had no need to discontinue any of her daily duties. At the end of a week the cedema had passed off, and the tumour was sensibly diminishing at the time the account of the case was sent to the Academy.

Incidentally to this communication M. Lusanna states that the idea of treating aneurisms by the injection of coagulants had occurred some years ago to a celebrated Italian surgeon, Monteggia by name, who also recommended that the artery should be compressed above and below the sac during the operation; and a quotation is given from M. Monteggia's 'Istituzioni Chirurgiche,' t. ii, 2d edit., Milano, in corroboration of this statement.

(D) CONCERNING FRACTURES AND DISLOCATIONS.

ART. 78.—*A new Operation for Ununited Fracture.* By Mr. JORDAN, Surgeon to the Manchester Royal Infirmary.

(*Medical Times and Gazette*, Jan. 14, 1854.)

From a report by Mr. Windsor it appears that Mr. Jordan has lately performed a new operation, which he founded on the following experiments by Mr. Syme. The first experiment consisted in exposing the radius of a dog, and in removing an inch and three quarters of that bone along with the periosteum; and, in the other leg, removing a corresponding portion without the periosteum. In six weeks the cut extremities of the radius from which a portion had been taken together with the periosteum, had only extended towards one another in a conical form, with a great deficiency of bone between them, and in its place merely a small band of tough ligamentous texture. In the other, where the periosteum had been allowed to remain, there was a compact mass of bone, not only occupying the space left by the portion removed, but rather exceeding it.

CASE.—George Dickens, æt. 55, an apparently healthy man, was admitted into the infirmary on the 7th Nov., 1853, with ununited fracture of the humerus. It was eight months since the accident, and five months after an unsuccessful attempt to procure union by Dieffenbach's method. On the 11th of Nov., Mr. Jordan operated in the following manner:—first, he made an incision down to the fractured part; secondly, he separated the periosteum from the extremities of the bones; thirdly, he sawed off the ends of the bones, leaving the periosteum; and fourthly, he placed the ends of the bones in apposition, and replaced the periosteum. The result of the case is not given.

ART. 79.—*On the Treatment of Dislocations of the Extremities when associated with Fracture.* By (1) Mr. HARGRAVES, President of the Royal College of Surgeons in Ireland; and (2) M. RICHET.

(1) *Dublin Quarterly Journal of Medicine*, Nov. 1853; (2) *Edinburgh Monthly Journal*, Dec., 1853, from the *Bull. de Théor.*, t. xiv, pp. 18-104.)

1. Mr. Hargrave's remarks are *apropos* of a case in which the right humerus was dislocated into the axilla, and fractured immediately above the condyles.

"William B., a painter, æt. 42, was admitted into the City of Dublin Hospital, June 3d, 1853. He fell from a height of thirty-three feet, dislocated his right humerus high up into the axilla, fractured the same bone immediately above the condyles, and had most extensive contusion and sanguineous effusion of the leg and foot of the same side, the sole of which was so distended with effused fluids as to render the hollow of its arch almost obliterated. This appearance was well seen when the injured foot was contrasted with the sound one.

"He was a tall and powerfully-made man. On admission, he complained of intense pain about the shoulder and in the axilla, extending down the arm, fore-arm, and to the little finger. The symptoms both of the luxation and fracture were well marked; an attempt made to coapt the last injury failed to accomplish it.

"The line of practice in this case consisted in applying splints and bandages on the unreduced fracture and arm; the lax and extending appliances were next arranged to the arm upon the splints and the bandages above the fracture; the scapula was then secured by a bandage, and confided to the care of assistants. Extension was now commenced and continued for some time, when the head of the bone was found to be dislodged from its situation, and was soon restored to its natural cavity. Contemporaneous with the reduction being effected, all pain of the shoulder, axilla, arm, fore-arm, and little finger ceased, and I was agreeably surprised to experience the greatest facility in setting the fracture and maintaining it in its proper situation, though prior to the reduction of the humerus it could not be brought into its natural position, principally from the action of the triceps extensor muscle.

"The subsequent treatment consisted in measures to relieve the effects of the contusion and to expedite the absorption of the effused blood. He was discharged from hospital July 7th, with the motions of the fore-arm perfect for every useful purpose."

"It has been generally taught in complicated injuries of this kind now detailed, and laid down by Petit, to allow the fracture to unite before the attempt at reduction of the luxation was made, and then to undertake the reduction. Such a proceeding, however, is not the most eligible. From the success of this case, also of one under the care of my former colleague, Mr. Orr, in this hospital, and a few reported in different medical journals, the rule should be, in the first instance to arrange the fracture in a temporary manner, and then endeavour to reduce the dislocation, which can be much facilitated by placing the patient under the influence of chloroform. If the reduction succeeds, the case is thus rendered more simple, and more likely to terminate favorably; but should the attempt thus made fail, the surgeon has then nothing to tax himself with, and must meet this complication in the most skilful way he can, always forewarning his patient of the extreme complexity of his case, and of the doubtful issue of the accident.

"If the contrary practice is followed, viz., first attending to the fracture, allowing it to unite, and then attempting the reduction of the dislocation, we have to encounter what may be considered an old unreduced luxation, and may be baffled in our efforts, or perhaps add to the complication by unintentionally re-fracturing the bone. In this special case such was the intensity of the pain the man experienced from the effects of pressure upon the brachial plexus, that the reduction of the luxation was imperiously required.

"Sir Astley Cooper was the first surgeon to advise the endeavour to reduce the luxation and then attend to the fracture; I might add, from theory, as in his treatise on 'Dislocations and Fractures,' this precept is not supported by any case, while every other rule of practice in it is supported by reference to cases. This patient called on me on the 6th of August last, when he had recovered the perfect power of extending and flexing his fore-arm."

2. M. Richet relates, in great detail, the case of a man, *æt.* 68, in whom a dislocation of the upper end of the humerus was complicated with fracture of the anatomical neck of the bone. Four days after the occurrence of the accident, he was placed under the influence of chlo-

roform, and the reduction of the dislocation was easily effected by pressing backwards the head of the bone, without any traction being resorted to. The fracture was afterwards adjusted and consolidated; and when the patient was seen a year after, he had recovered the complete use of his limb.

M. Richet reviews the opinions of the classic writers, who agree in pronouncing the impossibility of reducing a dislocation of the humerus or femur, until after the fracture complicating it has become united. He shows the great power chloroform confers upon us in these cases, by the complete relaxation of the muscular resistance it produces, and the care with which the head of the bone may, by due manipulation, be forced back into its socket. He thinks the passive obstruction offered by the fibrous tissues of the parts has been exaggerated and ill-understood. In numerous autopsies he has made after recent dislocations, produced accidentally or experimentally, he has always found the aperture in the capsule broad and irregular, and in no condition to offer an obstacle to reduction. He does not deny that such obstacles may occasionally be offered by the fibrous structures, independently of the aperture of the capsule: but he maintains, from clinical and experimental observation, that such obstacles are much more easily overcome by pressing the head backwards than by the usual practice of traction of the limb, which, indeed, only aggravates them. By the aid of chloroform, he believes a dislocation of the humerus into the axilla may thus always be reduced by pressing the head directly backwards. In several experiments that he has made in which the head of the femur has been dislocated, and the bone then sawn through just below it, so as to stimulate dislocation complicated by fracture, the reduction has also been easily effected by direct pressure.

ART. 80.—*On a New Mode of producing Extension in Fractures.*
By Dr. CROSBY.

(*American Quarterly Journal of Medicine*, Jan., 1853.)

Dr. Crosby proposes to keep up continuous extension in fractures of the leg, where such extension is necessary, by applying long broad bands of adhesive plaster along the length of the limb, and by attaching the free ends of these bands to the apparatus in which the limb is fixed, and by which extension is made.

ART. 81.—*On Felt Splints.* By Dr. F. H. HAMILTON.

(*Buffalo Medical Journal*; and *New York Journal of Medicine*, Sept., 1853.)

“Some years ago,” writes Dr. Hamilton, “I think in 1845, felt splints were brought to me by an agent of the manufacturer. The felt was sold in sheets, and also in pieces, modelled so as to be readily adapted to the form of the limbs. In some respects it was superior to gutta percha, and I am inclined to think that on the whole it was

the best splint ever used. I cannot learn that these splints are now manufactured in any part of the United States, and I will therefore inclose you the recipe for making them, which was kindly given me by the agent, and which I have frequently used myself:—Dissolve three pounds of gum shellac in two quarts of alcohol. It should be dissolved in a tin vessel, furnished with a tight cover to prevent evaporation. Spread a piece of old or new woollen cloth on a board, and with a clean brush saturate both sides of the cloth with the solution. Hang it up until it is thoroughly dried. Lay it again upon the board, and apply a second coat of the solution to one side only of the cloth. Dry again, and apply a third coat to the same side. There will now be three successive layers upon one side and one on the opposite. While the last coat is yet fresh, fold the cloth so that the side having three coats shall be applied to itself. Now, with a hot flat-iron, smooth and press the surfaces together. When it is cold, a slight rubbing with sand-paper makes it fit for use. It becomes a firm, almost unyielding board, but exposure to a moderate heat will make it pliant, so that it can easily and accurately be adapted to any surface."

ART. 82.—*On Caries and Necrosis of Bone, in reference to the Treatment of Diseased Joints.* By Mr. GAY.

(*Medical Times and Gazette*, March 11, 1854.

In this paper Mr. Gay makes the following deductions:—That necrosis of a bone is analogous to mortification, and caries to ulceration, in the soft structures. That the former affects the compact, while the latter affects almost exclusively the cancellous tissue of bone; but that, by a morphological process, the compact structure might be converted into a texture in all respects resembling the cancellous, and, under such circumstances, might be attacked by caries. That the separation of fragments or larger portions of bone from their living connexions is not by the same process in the two affections; and that the term "necrosis" is not applicable to *carious* disintegration. That caries is either the result of local irritation or of constitutional vice or disease, or of both combined, and that the obstinacy of individual cases will in a great degree be determined by the nature of the predisposing and immediate causes in each respectively. That in cases of purely local caries, the removal of the exciting cause and other appropriate treatment will often induce moderately speedy reparation; whereas, in the constitutional forms, the affection will be obstinate in proportion to the severity of the systemic vice, and the degree to which the system is imbued with it, the cancerous and strumous diathesis determining the most inveterate forms. That the treatment of caries must have respect to the particular cause in each case; and therefore be constitutional as well as local. That among the local remedies those might be enumerated which have the effect of favouring the extrusion of the diseased bone from the joint, or

ulcer; and the constitutional, those which have the power of invigorating the general health. Among the former, the use of concentrated mineral acids, of the acid nitrate of mercury, the nitrate of silver, caustic potass, red oxide of mercury, iodine, the actual cautery, and deep incisions into the diseased bone, with the separation (by means of the gouge) of all that which might appear to be in any way affected, had been recommended. Of these, Mr. Gay preferred the free incisions, in accordance with the views which he had before promulgated. Among the latter, cod-liver oil, iodine, iron, &c., &c., but especially warm clothing, wholesome food, and fresh air. With respect to the use of local remedies, it is now apparent why incising carious bone, and joints the bony constituents of which are carious, is not, in many cases, immediately followed by any very marked advantage; but the value of the treatment is not gainsayed by negative results. Such treatment is well adapted to expedite the recovery, and to aid the effects of such constitutional treatment as may be contemporaneously adopted. "Patience" must be the byword in the management of carious bones; and the more severe remedies of excision or amputation ought to be delayed until evidences are obtained of the disease being absolutely intractable, and that beneath its influence life itself is exposed to hazard. Boyhood with a carious joint is to be preferred to manhood with the mutilation or loss of a limb.

ART. 83.—*Case of Mollities Ossium preceded by Degeneration of the Muscles.* By THOMAS K. CHAMBERS, M.D., Physician to St. Mary's Hospital.

(*Lancet*, March 25, 1854.)

The case was that of a young woman, twenty-six years of age, admitted into St. Mary's Hospital in March, 1853. She had never been able to follow any calling on account of weak health. The principal features of the case, in the early stage, consisted in defective muscular power, the flesh of the body feeling exceedingly soft and flabby, the calf hanging down flaccid and baggy. During her residence at St. Mary's, the bones of the back and limbs were examined several times without any deviation from the natural state being discovered. Spontaneous fracture first of one femur, and afterwards of the other, occurred at St. George's Hospital; and, subsequently, very remarkable changes in the osseous structures took place. Thus, in April, 1853, the right arm became painful to the touch, and paralytic; in May, the same misfortune happened to the left upper extremity; in June, the pelvic arch gave way; in July, the ribs on the right side fell in, and she began to suffer much from dyspnœa and cough; in August, the bones of both arms were quite soft; towards the end of October, the distortion of the lower parts of the trunk was so great, that the fæces could not naturally be expelled. She died in November. The bones throughout the whole system were found soft and unresisting, and a sharp instrument could be readily passed through

them. A section of the tibia was of the colour of muscle, and presented to the knife scarcely more resistance than brain, its shape being retained by the aid of the tough periosteum. The microscope exhibited the bone as consisting of large fat vesicles, some containing a white, others a reddish oil. The parts next the periosteum, which felt gritty, presented, when examined under a quarter-inch glass, small islands of opaque bone, the bone corpuscles being indistinct and the caniculi not to be discovered. The addition of hydrochloric acid caused a slight disengagement of gas. The muscular fibre presented everywhere the characteristics of granular degeneration. The account concludes by an enumeration of the points of the case most worthy of attention:

1. The portrait which was afforded of an early stage of the disease, a stage at which it was rarely the subject of observation.
2. The impression produced by it—viz., that the degeneration of the bones was preceded by that of the muscles, and that the degeneration of the two tissues was dependent on the same crisis; and the probability therefore was, that such was the history of analogous cases.
3. The fact that the degeneration was least advanced in the external circumference of the bone.
4. The formation of perfect fat vesicles in both bone and muscle.

ART. 84.—*On the Union of Tendons which have been divided for some time.* By (1) M. SEDILLOT, of Strasbourg; (2) the late Prof. ROUX; and (3) M. JULES GUERIN.

(*Gaz. Méd. de Paris*, Nov. 5, 1853.)

An interesting case in which this union was successfully accomplished was brought before the Parisian Academy of Sciences in October last by M. Sedillot.

M. Sedillot's Case.—The patient was a soldier, who had lost the power of extending his little and ring fingers in consequence of a sabre cut across the inferior third of the dorsal surface of the right fore-arm. This accident occurred on the 13th of December, 1852. The wound healed almost immediately, but the hand was still disabled. Having been put under the influence of chloroform, M. Sedillot cut down upon the divided tendons (which were in this case a single tendon), and found the ends at a considerable distance apart. He then separated all newly-formed adhesions, pared the ends of the tendons, and, having brought them in contact by bending back the hand as far as possible, he connected them by a single suture, the end of which was brought out of the wound. The hand was then fixed in the same position, and the parts kept in contact as far as possible by a few turns of a bandage. The night following the operation was somewhat restless; there was a little œdema about the wound, and there was some thirst. Six days later the suture came away from the tendon, and what little inflammatory disturbance had existed in the meantime had subsided. From this time the wound healed rapidly, and after a very short delay the patient recovered the use of his fingers, and was able to resume his military duties.

Commenting upon this case, the late M. Roux related a similar case by M. Petit of Lyons ('*Maladie du Cœur*,' p. 320, Lyons, 1806), another by M. Dutetre ('*Méd. Operat.*,' Paris, 1816), and a third by himself. A case was also mentioned in which Mr. Syme had operated successfully upon a tendo Achillis which had been divided for upwards of five months.

M. Petit's Case.—M. de Priançon had long lost the use of the index finger of his right hand, in consequence of a wound which had divided its extensor tendon. Hearing of a case in which a tendon recently divided had been reunited by suture, this gentleman requested M. Petit to perform a similar operation upon him. M. Petit objected at first, but in the end he cut down and exposed the divided tendon, the ends of which were rounded and tuberculous, and a couple of inches apart. He then pared the ends, and brought them together by a suture, and by fixing the finger in a proper position by means of bandages. Twenty-five days afterwards the wound had healed, and the finger had recovered its power of extension.

M. Dutetre's Case.—This is not given in detail, but a hand appears to have long lost the power of extending its fingers, in consequence of a wound across the extensor tendons. M. Dutetre cut out the cicatrix by an elliptical incision, and brought the edges of the wound together by suture, and by fixing the hand in a proper position; and in the end the tendons reunited, and the patient recovered the use of his hand.

M. Roux's Case.—This occurred more than twenty-five years ago. The patient's name was Ruffe, an Italian by birth, and a pianist and musical composer of some celebrity. He had lost the power of extending the middle finger of the right hand two years previously, in consequence of the division of its extensor tendon by a fragment of glass, and he had been altogether incapacitated from playing for the whole of this time. M. Roux repeated the operation of M. Petit, and having exposed and pared the ends of the divided tendon, which were a full finger-breadth apart, he united them by means of a suture. This suture came away on the seventeenth day. The cure was perfect, and before long M. Ruffe was able to play as brilliantly as ever.

Mr. Syme's Case.—This was the case of a young man who had wounded himself with a sickle five months previously, and divided the tendo Achillis of one of his legs. Mr. Syme exposed the divided tendon, pared the ends, connected them with two sutures, and then put the limb up in one of J. L. Petit's apparatuses for rupture of the tendo Achillis. Six weeks afterwards the patient was completely well.

M. Jules Guerin makes the preceding facts the subject of a leading article in the '*Gazette Médicale de Paris*,' and he takes the occasion of stating that he has reunited the divided ends of a muscle of the eyeball, after an unsuccessful operation for squinting, in not less than forty-two instances. He did not employ sutures in these cases, and he thinks they might have been dispensed with in the cases which have just been related.

(F) CONCERNING OPERATIONS.

ART. 85.—*A new Vaccine-Scarificator.* By Prof. DRYER, of Copenhagen.

(*Edinburgh Monthly Journal*, May, 1854.)

This instrument was exhibited by Dr. J. Struthers at a recent meeting of the Edinburgh Obstetrical Society. In form it resembles the iron pen, with two legs and screw for regulating their distance, commonly contained in cases of philosophical instruments; but the extremities of the legs, instead of being pointed, are broad and sharp, similar to those of the double knife of Valentin. The advantages of the instrument are—1st, that the scarification and vaccination are effected by a single application; and 2d, that many persons (as many as twenty or thirty) may be vaccinated in succession without re-charging the instrument,—a sufficient quantity of lymph being held between the blades for this purpose. This instrument is used very extensively in Denmark, where the practice of re-vaccination is very general.

(G) CONCERNING ANÆSTHETICS.

ART. 86.—*Rules for the Administration of Chloroform.*

By M. ROBERT, Surgeon to the Hôpital Beaujon.

(*Bull. Gén. de Thérap.*, vol. ii, 1853; and *Dublin Quarterly Journal*, Feb. 1854.)

1. Chloroform may cause death when it is mixed in too great proportion with air.

2. But it may also, in consequence of idiosyncrasy, produce serious accidents and death, even when it has been administered in trifling doses.

3. Asphyxia is not to be apprehended as a result of the employment of chloroform, unless the method of inhalation adopted be defective or the state of the respiration be not duly attended to.

4. Chloroform predisposes to syncope, and renders the latter, when it occurs, more serious.

5. In cases in which death takes place exceptionally, it occurs by syncope. The cessation of the action of the heart is sometimes so sudden, that it constitutes a true sideration.

6. Syncope may occur at the very commencement of the operation, and in that case seems to result from the shock given to the system by the operative act itself. It may appear immediately, or several hours after the operation.

7. Anæsthetics are all more or less poisons. Chloroform is the most dangerous, but it is also the most powerful. Ether is less formidable, but less energetic. A mixture of equal volumes of ether and chloroform appears to me to be the best anæsthetic; it produces insensibility quickly, and seems to excite less reaction than chloroform or ether.

8. Before having recourse to the employment of chloroform, its contra-indications, whether for rejecting anæsthesia or for modifying its application, should be sought for.

9. When chloroform is administered, it is important to watch attentively the state both of the pulse and of the respiration.

10. The danger of chloroform being, in general, proportional to the concentration of its vapours, it would be useful to be able to regulate this; but, as the inhalation must be made with free access of air, this regulation is impossible. It is, therefore, expedient to begin with very small proportions, which may be gradually increased according to the effects produced.

11. The action of chloroform being progressive and successive, we obtain insensibility by continuing uninterruptedly the inhalation of moderate doses, without its being necessary to increase the latter.

12. Having obtained the state called anæsthetic tolerance, we may prolong the condition for a longer or shorter time, provided we intermit the inhalation.

13. When, for any reason, the patient has been obliged to consume a large quantity of chloroform, we must guard against consecutive attacks of syncope.

14. In cases of severe syncope or sideration, it will be advisable to have recourse to the following means :

1. To expose the patient to a cool and pure atmosphere.

2. To give the body such a position that the head may be dependent.

3. To open the mouth and draw the tongue forward.

4. To practise artificial respiration by duly timed pressure (par des pressions cadencées) on the thorax and abdomen.

5. Excitement of the skin by frictions, rubefacients, &c., may be susidiarily employed.

II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 87.—*On the Questionable Propriety of Trephining for Intracranial Suppuration.* By Mr. PRESCOTT HEWITT, Assistant-Surgeon to St. George's Hospital.

(*Medico-Chir. Trans.*, vol. xxxvi, 1853.)

The following important remarks occur in an 'Analysis of the cases of injuries of the head, examined after death in St. George's Hospital, between Jan., 1841, and Jan., 1851.'

"Suppuration between the bone and the dura-mater appears not only to have been much more frequent, but also very much more commonly confined altogether to this situation formerly than it is in the present day.

"In the second section of 'Injuries of the Head,' Pott gives twelve cases of scalp-wound followed by subsequent mischief beneath the bone, in seven of which the suppuration was altogether confined to the outer surface of the dura-mater. In the various cases which I have

noticed of this affection, I have never seen a single instance in which the suppurative inflammation was thus limited; in every case which I have examined, inflammation has at the same time existed beneath the dura-mater. It cannot be said that this very marked difference depends upon the amount of inflammation, or the quantity of matter thrown out, for in several of Pott's cases not only was the quantity of matter thus situated very large, so large indeed that it was thought impossible for the patients to recover, but the inflammatory process had been going on for some days, as shown by the symptoms and the quantity of matter evacuated from the spot where the trephine was applied; whereas, in several of the cases which I have noticed, although the extent of the mischief between the bone and the dura-mater has been comparatively trifling, still the diffuse inflammation beneath the membrane has been most extensive. In every one of the eight cases of suppuration between the bone and the dura-mater occurring in this decennium, puriform effusion was found within the cavity of the arachnoid, and appeared to have spread from the external to the internal parts. That this difference does not depend upon locality is evinced by the results of similar cases in different places and in different countries.

"Suppuration between the bone and the dura-mater naturally leads to a practical question of the utmost importance, I mean the application of the trephine. Formerly, and especially in Pott's hands, it appears in such cases to have been one of the most successful operations. Mischief was suspected under the bone, the trephine was applied, matter was found, in some cases in large quantities, and evacuated, and the patients recovered without any further difficulty. Such is the history of several of Pott's cases; but, unfortunately, we have met with no such success. It has never yet fallen to my lot to see a single instance in which the application of the trephine has, under such circumstances, had a successful issue. In every case in which I have seen the operation performed, the patient, notwithstanding the evacuation of the matter, has died of diffuse inflammation of the membranes. Still, notwithstanding that our efforts have been so unsuccessful, we do not hesitate, whenever the various symptoms lead to the diagnosis of matter between the bone and the dura-mater, to apply the trephine, and we give the patient the only chance, however small that may be, of recovery; but, on the other hand, we consider the application of the trephine altogether useless in cases of intra-cranial suppuration, where the symptoms are those of acute inflammation of a diffuse kind, in which the signs of compression are generally but slightly marked.

"Of the eight cases of suppuration between the bone and the dura-mater without fracture, noted in this decennium, five were not operated upon, and three were trephined. In the first class, in which no operation was performed, the symptoms of compression were either but very slightly marked, or altogether absent.

* * * * *

"Purulent infection was observed in fourteen out of the twenty-three fatal cases of scalp-wound, and, although developed in other injuries, in none is it more frequently so than in those of the head, and that,

too, in cases where the injury has apparently been of a trivial nature. The well-known fact that this disease is found especially in injuries involving the osseous system, will serve to explain the frequency of the development of this most formidable complication in accidents about the head, where the bones are not only abundantly supplied with cancellous tissue, but where are also found venous canals much larger and much more numerous than in any other part of the skeleton. That no cases of this kind should have fallen under Pott's notice is surprising, and the more so, as Desault and others were at about the same period directing the attention of surgeons to this affection, as one of the most common consequences of injuries of the head.

"It has been thought by some foreign pathologists, that the early application of the trephine made by Pott and other surgeons, in cases of exposed and contused bone, might, in some measure, serve to explain why these practitioners had not met with more cases of purulent infection in injuries of the head. M. Chassaignac especially thinks, that the removal by the trephine of the contused bone before suppuration has taken place in its diploë, destroys the source from whence the secondary mischief is for the most part derived; but such an explanation can scarcely be admitted as a valid one; for in how many cases of purulent infection after amputation do we not find extensive suppuration in the cancellous tissue of the bone?—cases in which there had been no injury, and in which suppurative inflammation did not exist in the bone previous to the removal of the limb.

ART. 88.—*On Xerophthalmia.* By Mr. TAYLOR, Surgeon to the Central London Ophthalmic Hospital.

(*Edinburgh Medical and Surgical Journal*, Jan., 1854.)

Mr. Taylor relates three cases of this rare disease, and gives a resumé of the state of our knowledge respecting it, which we recommend to the attention of those of our readers who are especially interested in diseases of the eye. Xerophthalmia, in Mr. Taylor's opinion, is the effect of chronic inflammation.

"We find invariably," he writes, "that there has been long-continued or often-repeated inflammation, which in some instances has been altogether disregarded, in others aggravated by entropium or trichiasis, or by the injudicious use of powerful escharotics or stimulants. After a certain time this is followed by unnatural dryness of the eye, which may be traced partly to closure of the lachrymal ducts, and partly to disorganisation of the conjunctiva, rendered sufficiently manifest by its altered appearance. The next and most remarkable feature of the disease, is the gradual shrinking and final disappearance of the palpebral sinuses; and the manner in which this is effected seems to afford a key to the explanation of its pathology. If we look at a case in its most advanced stage, we see nothing which would lead us to suppose that the adhesion of the eyelids to the globe had not taken place in the usual manner, by the contraction of new material poured out to repair loss of substance, as after a wound or burn, or by the union of opposite granulating surfaces, as might happen after extensive idiopathic ulceration. But if we watch the change from time to time during its progress, we see

that no loss of substance, no breach of surface, has taken place. The sinuses slowly diminish in depth without union of their opposing surfaces, until they have totally disappeared, and the conjunctiva, instead of forming a deep reduplication, is continued directly from the margin of the eyelids over the surface of the eye, shrinking at the same time in every direction, flattening out the plaits which it had at first formed around the margin of the cornea, diminishing the transverse diameter of the palpebral fissure, and applying itself tightly over the surface, so as to bind the eyeball and eyelids into one solid and nearly immoveable mass. The cornea alone, though partially concealed by the upper eyelid, remains free to its margin, where the conjunctiva, with the exception of its epithelial covering, terminates; in those cases alone in which there has been ulceration of its surface, as in the case of Scott, does it adhere to the opposing surface of the eyelid. I think that we are warranted in inferring the nature of the process by which this destruction and gradual contraction of the conjunctiva is effected from analogous changes in other organs, where they have been more carefully watched. In the kidney, for example, certain forms of chronic inflammation are attended with the exudation of lymph, by which, as well as by the impaired nutrition consequent upon its morbid condition, its proper structures are destroyed, and as the organisation of the new material proceeds, the gland shrinks into a solid and structureless mass. Such, in all probability, is the process in this peculiar inflammation of the conjunctiva; its structures are infiltrated with inflammatory exudation, its secretory apparatus is destroyed, and the gradual contraction of the new material as its organisation advances, is sufficient to account for the various changes by which the disease, in all its phases, is characterised."

CASE I.—George Conway. *æt.* 25, was admitted an out-patient to the Central London Ophthalmic Hospital, Feb. 7th, 1852.

Sixteen years ago he lost the left eye from smallpox, and has ever since suffered so much pain and irritation in the other, that it has been of little use to him, though he could see sufficiently to walk about without assistance. Two years ago he was persuaded to put himself under the care of an empiric, who used some powerful irritant application to the eye. This caused excessive pain, and the sight got rapidly worse, so that within a week he became almost totally blind.

In the right eye the cilia, which were remarkably strong and bushy, were in contact with the globe along the whole extent of both lids, partly from trichiasis, and partly from slight entropium. The eye looked like that of a dead animal after exposure to the sun. The cornea was dry, devoid of lustre and transparency, and covered with particles of dust and dirt, especially in the line of junction of the lids; the situation of the pupil could with difficulty be made out, but the iris could not be seen. The conjunctiva was dry and parchment-like, and was traversed by several large tortuous vessels; round the outer margin of the cornea, it was thrown into several prominent wrinkles or plaits, which were flattened or deepened according as the eye was turned inwards or outwards. The palpebral sinuses were slightly diminished in depth, and contained a little moisture; their lining membrane was smooth, and covered with bluish marks like cicatrices. The situation of the lachrymal puncta was visible, but they were not pervious. The movements of the eye and of the lids were tolerably free, but were performed with a feeling of stiffness and restraint. The eye felt hot and dry, and he had frequent paroxysms of acute pain, which destroyed his rest, and rendered him anxious to submit to any treatment that would give him relief. The sensibility of the

surface of the eye was much impaired; it could be freely touched without causing him any inconvenience. He could dimly discern the outline of a large object, such as the human figure, at the distance of a yard; but he could not distinguish a male from a female.

The left eye was shrunken and atrophied, and its conjunctiva dry and shrivelled, as in the right eye.

I performed Mr. Walton's operation for entropium upon both lids, with the effect of removing the cilia from contact with the globe, with the exception of a few which were very much displaced; these were subsequently got rid of by inoculation with tartar emetic, as recommended by Dr. Hunter ('Med. Chirurg. Review, July 1841). At the same time, he was directed to keep the eye constantly moist, by applying a drop of glycerine as often as necessary. With the removal of the entropium, the pain at once and permanently ceased, the sight also, was considerably improved within a few days after he commenced to use the glycerine, partly from the removal of the dirt with which the cornea had been covered, and partly from the degree of transparency which it communicated to the epithelium. It could now be ascertained that there was some slight superficial opacity of the cornea proper, induced, doubtless by the friction of the inverted cilia; this gradually cleared away, until, at the end of three months, the colour and texture of the iris were distinctly visible, and his sight was so much improved, that he could distinguish a pen lying on the table at the distance of four feet. He now abruptly ceased his attendance, and discontinued the use of the glycerine; he was not seen for some months afterwards, when the eye had again become dry and opaque, and he could merely distinguish light from darkness.

CASE 2.—John Scott, æt. 65, applied at the hospital, April 25th, 1853.

About five years ago he had an attack of "cold in the eyes," from which, owing to neglect, he still suffered at the expiration of five months. He was then admitted as an out-patient at an hospital, where a strong solution of nitrate of silver was dropped into the eye three times a week; each application caused acute pain, which lasted the whole day, unless he could succeed in getting a few hours' sleep. This treatment was continued for several months, during which his sight got gradually worse, and eventually, when he ceased his attendance at the hospital, he was totally blind. He subsequently applied to several surgeons, some of whom again made use of stimulating applications without benefit.

In both eyes the palpebral sinuses are completely obliterated, and the eyeball and lids consolidated into one mass, the margin of the upper lid being on a level with the upper third of the cornea, that of the lower jaw just reaching its lower border. The part of the cornea thus covered is not adherent to the lid, which can be pulled forwards from it by means of the cilia, so that a probe can be passed completely round its margin. The membrane is perfectly dry, and of a dirty white colour, resembling the dried cuticle which had been detached by a blister; it is not thrown into plaits around the cornea, as in the last case; on the contrary, it seems to be drawn tightly over the surface of the eye, diminishing the transverse fissure of the lids, and preventing motion, except to a very limited extent. The left cornea is dry, dead-looking, covered with adherent dust and dirt, and so opaque that the situation of the pupil cannot be made out, even when the light is concentrated upon it through a lens. The right cornea is of a uniform dull red colour from minute vascular ejection, and has a pulpy villous appearance, speckled here and there with small ulcers. The situation of the puncta is visible, but they are not pervious. There is neither entropium nor trichiasis; the cilia, which are numerous and strong, as well as the margins of the lids, preserving a

perfectly natural direction. By a strong muscular effort, the cutaneous surfaces of the lids can be brought into contact, but farther than this they are almost immovable. The eyes feel dry, stiff, and uncomfortable, and occasionally he has pain of a burning character, but seldom very severe. The sensibility of the surface is not greater than that of the palm of the hand. He can merely distinguish between light and darkness.

The treatment consisted in keeping the eyes constantly moist with glycerine. The ulcerated cornea soon healed up, and became covered with a dense bluish cicatrix, which adhered to the lid. The left cornea has improved somewhat in transparency; the situation of the pupil can be made out without difficulty, and through one small spot near the margin, the colour of the iris is visible. In a good light he can see the outline of the human figure, but not distinctly. The eyes feel much more comfortable, and he has been entirely free from pain since the glycerine has been applied.

CASE 3.—George Ling, æt. 73, was admitted as an out-patient, April 20th, 1853.

Twenty years ago he suffered much from inflammation of the eyes, which he attributes to excessive weeping, having met with severe domestic misfortunes; he had constant pain, and after a time they began to feel dry and hot, and the sight became dim. He applied to a surgeon, by whom he was cupped and leeches, a strong solution of caustic was dropped into the eyes, and sulphate of copper was rubbed upon the lids. These applications, which were continued for some time, caused excessive pain. He asserts that the sight was completely destroyed by the first employment of the caustic solution; this may be an exaggeration, but it is certain that it disappeared very rapidly, leaving him merely the power of distinguishing light from darkness. Six years ago, after having had a great variety of advice, and having tried many remedies without relief, he was accosted in the streets by a surgeon, who told him that the cause of his blindness was inversion of the lids, and persuaded him to submit to an operation. This appears to have consisted in splitting up the upper lids, and probably, removing a large portion of skin, as the lids were so much shortened that they could no longer be closed; the corneæ were thus permanently exposed to the air, and his sufferings were very much increased.

Both upper lids are much shortened and disfigured by the operation, and their edges are studded with small, fine cilia, some of which are in contact with the globe. The palpebral sinuses are completely obliterated, not the slightest fold or indentation marking the spot where they formerly existed; the lids thus appear continuous with the surface of the eye, their edges are rounded off, and present no traces of Meibomian glands or puncta lachrymalia, and the transition between the skin and the altered mucous membrane is imperceptible. The surface of the eye is perfectly dry, and of a dirty-white colour, but there is no adherent dust. The conjunctiva appears to be converted into a thick, opaque cuticle, not thrown into folds at the margin of the cornea, but apparently prolonged over it, so that its boundary cannot be seen. Towards the centre of the cornea this covering is rather less dense, so that by concentrating the light upon it by means of a lens, one or two large vessels can be distinctly seen deep in the substance of the cornea proper; on the other parts of the eye it has exactly the appearance of the cuticle detached by a blister on a part where the skin is thick, as on the palm of the hand. The lids do not adhere to the corneæ, the fissure made by the operation being attached round their upper borders, while the remainder of the lid is on a level with their upper thirds. The surface of the eyes is devoid of sensibility, and may be touched with as much freedom as any

other part of the body. The movements of the eyes are very much limited, and are accompanied with a most distressing sensation of stiffness and restraint. He has frequently and severe paroxysms of burning pain, and is never free from uneasiness. Vision, except the power of distinguishing light from darkness, is extinct.

As the condition of the lids precludes the possibility of any operation for the removal of the trichiasis, and as the displaced cilia are few in number, and very weak, it has been deemed sufficient to extract them from time to time with the forceps. For the rest, the treatment has been limited to keeping the eyes constantly moist with glycerine, which has afforded him more comfort than he has enjoyed for many years. The pain, though it occasionally recurs, is much less severe, and the softening of the shrivelled conjunctiva permits greater freedom of motion, and diminishes the feeling of stiffness and restraint. Little improvement has taken place in the transparency of the cornea, nor is it probable, from the density of the cuticle with which it is covered, that much can ever be effected.

ART. 89.—*Pathological Remarks on the kind of Palpebral Tumour, usually called in England Tarsal Tumour.* By Mr. HAYNES WALTON, Surgeon to the Central London Ophthalmic Hospital, &c., &c.

(*Medical Times and Gazette*, Feb. 4, 1855.)

After pointing out the very obscure manner in which the subject of tumours of the ocular appendages is treated by writers, the author gives a description of the external characteristics of such tumours, and proceeds to describe the intimate structure of one that he had removed from the living body. It consisted, externally, of a dense fibrous cyst, continuous with the fibrous tissue of the lid; within this was a layer of fibro-plastic matter, soft, pink, and very vascular, composed of fibro-plastic cells, with very little intercellular matter; within this, a thin pellucid cyst, containing a puriform fluid, with epithelial cells, loaded with oil, and in the centre a perfectly round pellet of sebaceous matter. In conclusion, the author suggests the following order of development:—1st. The formation within a Meibomian follicle of a pellet of hard sebaceous matter. 2d. The secretion of a more copious epithelium and fluid matter around. 3d. The addition of fibro-plastic matter around the obstructed gland follicle, distending the loculus of fibrous membrane into a cyst. This, with frequent dissections of other tumours, were illustrated by accurate drawings. The author suggested the name of Meibomian tumour as appropriate. In a postscript to his paper, Mr. Walton recommends that, when such tumours take an outward course, it is better to open them, squeeze out the contents, and extract the cyst. If the incision be made horizontally there is no danger of a scar.

ART. 90.—*Case of Removal of a Piece of Steel from the Interior of the Eye.* By Mr. CRITCHETT, Surgeon to the Royal London Ophthalmic Hospital.

(*Lancet*, April 1, 1854.)

"I have brought this case before the notice of the profession," writes Mr. Critchett, "because it seems to me to possess some curious features; it is remarkable that a piece of iron of such solid form should have caused a wound capable of such complete closure as to keep in the aqueous humour, that it should have had sufficient force to cut the iris, and yet have been arrested at the posterior part of the lens, without wounding the hyaloid membrane, and that such an amount of violence could be done to the eye, both in the first instance, by the accident, and, subsequently, by my operation, with so little damage to the integrity of the organ; further, the mode I adopted for its removal possesses some interest. Another motive, however, for publishing this case is to furnish me with a text for the propriety of removing foreign bodies from the interior of the eye. When they lie upon the surface, all are agreed as to the propriety of removing them, and except when small fragments are imbedded in the cornea they are easily removed. In such cases we use a kind of small spud, not so sharp as to become entangled in the cornea, yet sufficiently thin to pass under the foreign body. When, however, any foreign substance has entered the eye, opinions are not quite unanimous as to the propriety of removing them. My own opinion, and that of my colleagues at the Ophthalmic is decidedly in favour of removal wherever it is practicable, however long it may have been there, and at whatever risk of evacuating the contents of the globe. So long as it remains it is always ready and liable, on the slightest provocation, to light up acute, obstinate, and I may almost say hopelessly-prolonged inflammation, and any attempt at that time to remove it is attended with extreme pain, difficulty, and danger; and, moreover, even where acute symptoms do not occur, a slow process of disorganisation goes on, which not only destroys the organ, but is very prone to damage the other eye through the medium of the very intimate sympathy and connection existing between the two. When the foreign body has passed out of sight of course the difficulty is much increased, but the case I have related seems to offer some encouragement to make an attempt; matters cannot, on that account be more unfavorable, and even if we fail in the search, subsequent spontaneous escape may be thereby facilitated."

CASE.—John A—, æt. 20, an engineer, applied at the Royal London Ophthalmic Hospital, October 4th, 1854, under the following circumstances:—On the previous day, while engaged in turning, a piece of metal flew off with considerable violence, and struck the left eye. He has suffered ever since from severe pain in the globe and dimness of vision. On examining the eye I found, at the upper part of the cornea, and extending downwards towards the centre, a rather irregular incised wound, which was so far closed as to retain the aqueous humour; at the pupillary margin above there was a dark-looking mark which appeared like a foreign body; the lens was becoming

milky. Judging both from the history and appearance, that a foreign substance had entered the eye, I proceeded to attempt its removal. I first introduced a small probe through the wound in the cornea towards the dark spot on the pupillary margin, when I ascertained that the appearance depended upon a slit in the pupil caused by the passage of the foreign body. Having thus far tracked it on its way, and knowing how much mischief was to be feared from leaving it in the globe, I determined to prosecute my search still further, seeing that the lens was becoming opaque, that a traumatic cataract was already forming, and that it only required time to become quite complete, I proceeded to remove it. I slightly enlarged the opening in the cornea, and introducing the scoop of the curette, I gradually spooned away the greater part of the lens—a mode of extracting a soft cataract through a small aperture that we sometimes adopt at the Ophthalmic Hospital. When the lens was thus nearly removed a dark oblong piece of metal suddenly came into view, lying behind and across the pupil, and resting upon the hyaloid membrane of the vitreous humour, which was evidently not wounded. I now introduced a pair of delicate forceps, and endeavoured to seize and draw it out, but though there was no difficulty in placing the blades of the forceps upon it they slipped off whenever I made the least traction, which was accounted for by the smooth polished surface of the metal, and by its prismatic form. Finding it quite impossible to remove it in this way, I introduced the spoon of the curette under it, and thus succeeded in lifting it out; but in doing so the hyaloid membrane was wounded, and a small amount of vitreous humour escaped; the eyelid was closed; the man was put to bed; some slight swelling of the lids came on together with pain; but these symptoms gradually passed away. A week after the accident the wound in the cornea was healed. The present state of the eye, ten weeks after, is as follows:—There is a faint mark in the cornea where the wound was made; the remainder of the cornea is quite healthy and transparent; the pupil is small, and filled with a thin layer of lymph, and above there is some slight adhesion of the iris to the cornea; there is a good anterior chamber; some perception of objects; and I expect, when the pupil is opened, there will be useful vision. The globe is of the normal firmness, and free from pain and inflammation, and has been so ever since the first week after the accident.

ART. 91.—*Removal of an Osseous Tumour, with part of the Ethmoid and Upper Maxilla.* By Dr. WEBB, Professor of Clinical Surgery in the Medical College, Calcutta.

(*Indian Annals of Medical Science*, Oct. 1853.)

The tumour in this case is stated to have gradually increased in size for eight years. It consisted of simple spongy bone, without any cartilage or fibrous tissue. The recovery was rapid and without any accident. Dr. Webb writes:—

On the 7th June, 1853, at the Medical College Hospital, Hurrish Chunder Mookerjee, a Brahmin, æt. 25, of healthy appearance, was admitted under my care, with an osseous tumour filling up the nasal cavities and part of the right orbit, thrusting the eye outward in a manner so singular that standing behind the man he appeared to look at you backward. The eye, moreover, was nearly closed, but this was in some degree caused by inflammation, and partial supuration of the upper lid, and the eye became more open when a little pus was evacuated by incision. There were tears and mucus exuding from the

incision made over the inner canthus, so that it is probable the obstructed lachrymal sac caused some suppuration and swelling.

A more accurate examination of the tumour, shewed the nasal bones so forced asunder that the finger could be laid in the interval between them. The right one raised up, so as to lie flatly on the tumour, elevated the integument to a level somewhat higher than the nose, which had thus assumed a monstrous flattened appearance. From the centre of the root of the nose to the inner canthus of the right eye measured two inches and a half. When the finger was thrust into the inner canthus, it could be made to pass along the upper margin of the os planum for an inch, and this portion of the ethmoid was found to be irregularly modulated upon its surface, and to project at least a finger's breadth into the orbit below, causing the exophthalmia alluded to. The upper border of the os planum constituted apparently the upper boundary of the tumour, its lower limit being the horizontal plates of the superior maxillary and palate bones. In the nasal fossa a small flat probe could be passed between the floor and the under surface of the tumour for an inch. The hard palate was not depressed into the mouth, and all the teeth were firm and sound, but the right half of the hard palate was wider than the left. Towards the inner side the tumour had so pressed upon the septum, that a probe could not pass through the left nasal fossa. Even the spongy bones of this side were partially compressed and obliterated, yet air passed through which could not be forced through the right fossa. The whole nose was carried to the left. An eye probe could be passed between the tumour and septum in the right fossa for a very short distance. The tumour was *seen* to extend quite to the opening of the right nostril, and was there felt to be nodulated, and of incompressible bony hardness. The fingers, introduced into the mouth, and carried over the soft palate into the posterior nares, encountered the posterior border of the tumour, which was in some degree flexible. The anterior, and lateral, and posterior boundaries of the antrum, felt in the mouth above the alveolar ridges, were not distended nor perceptibly altered.

I concluded, therefore, that the tumour was not within the antrum. But it appeared to have encroached upon and to have obliterated the lateral mass of the ethmoid, the spongy bones, and the ascending process of the superior maxillary bone, which last appeared to form its firmest support.

To save the hard palate and the malar bone, and the septum narium was most desirable. But how could I do this, and yet remove the tumour so closely jammed in between these points? Tumours situated like this are generally, when removed, depressed into the mouth. But I could not depress if I saved the hard palate; could not press it outward if I saved the malar bone; could not press it upward if I saved the floor of the orbit; nor inward because of the nasal septum.

I resolved, if possible, to scoop out the centre of the tumour, and then crush in its crust; and as no instruments I possessed had strength and temper adapted to this work, I got, through the kindness of Mr. Holmes, vet. surgeon, a drawing knife of small size, which answered admirably.

The operation was performed on the 16th of June, the patient having been first put under the influence of chloroform.

(1.) With a sharp-pointed bistoury, I made an incision, beginning at the left of the root of the nose, then down to the bone over the root of the nose, and on over the tumour to the inner angle of the right eye, then bending outwards as far as the infra-orbital foramen, then down to the lip, transfixing it: the knife cutting itself out at the angle of the mouth. (2.) The

lip, ala nasi, and nasal bone were now quickly dissected upwards, and turned over to the opposite left side, exposing the tumour to some extent. (3.) With a trocar, I pierced into the antrum (found no fluid). (4.) One blade of a cutting-bone forceps was introduced through this opening, the other blade lying under the tumour in the nasal fossa, the intervening ascending process of the maxilla was cut across. (5.) One blade again in the antrum, the other in the orbit, external to the nasal duct, this portion of orbit was cut across. (6.) I now dissected up the eye, and, keeping it away with my finger, I introduced one blade of the bone-cutter above the projection of the os planum, resting the other blade above the tumour, where the removal of nasal bones had exposed the root of the nose, directing the forceps obliquely downwards, so as to avoid the orbital plates of the frontal and the pulley of superior oblique muscle, I cut all through.

(7.) The tumour was now felt to move a little, and using more force, twisting it on its centre, it broke off. (8.) I then attacked it with the "drawing knife" with button end, cutting and scooping out as rapidly as I could, for the bleeding was very profuse from every fresh cut—I excavated a hole as large as a pomegranate. (9.) I broke up the shell, which lay upon the hard palate, and found the mucous membrane quite healthy below. (10.) Forced outwards the shell that lay next the septum, and found that partition was covered by healthy mucous membrane. (11.) I then pushed forwards, with my fingers in the mouth curved over the soft palate, that posterior softer part of the tumour which hung into the fauces, it started forward like a cork, and the blood now ran back into the throat, but was before so accumulated as greatly to obscure the outline of parts. The passage being fairly open, the uvula appeared continuous with the floor of the nasal cavity.

My hand could now enter the cavity. (12.) With my finger nails I cleared all away from the roof of the nasal fossa and cribriform plate of the ethmoid. I felt the soft contents of the orbit, where the os planum had been removed, and the compressed walls of the antrum were seen below. The bleeding now seemed to come only from the upper and outer part of this chasm, probably from the sphenopalatine artery. The cavity was stuffed with tow and dossils of lint, which restrained the hæmorrhage. The man became faint and the bleeding ceased entirely. After waiting half an hour, the edges of the wound being cleaned, were brought together, and secured by needles (points made sharp and angular), by interrupted suture, and by strips of plaster between the sutures.

The upper part of the wound passing through the integument, lately inflamed and yet exuding pus, I feared to secure by ligature. This was the only part that did not unite by adhesion. On the third day, it was necessary to remove the lint and tow saturated with offensive discharge. But as the lip now adhered above the alveolar ridge, the nostril was the only exit left. The process of drawing it out by dressing forceps was long, and the quantity apparently as interminable as the yards of tape and ribbon miraculously evolved from the head of a conjuror.

"There is now," writes Dr. Webb, three months after the operation, "but slight difference in the axes of the two eyes; over both he has perfect command. The nose is well formed, and has attained its central position. There is slight loss of sensation about the angle of the mouth. In general health he is fat and strong."

ART. 92.—*On a New Instrument for the Removal of Polypi from the Ear.* By JOSEPH TOYNBEE, F.R.S., F.R.C.S., Aural Surgeon to St. Mary's Hospital, Consulting Aural Surgeon to the Asylum for the Deaf and Dumb, &c.

(*Medical Times and Gazette*, Nov. 19, 1853.)

Various instruments have been invented having for their object the removal of the small vascular polypi from the external auditory meatus. Of these, by far the best is the snare of Mr. Wilde, which is thus described at page 420 of that gentleman's work on '*Aural Surgery*':—It consists "of a fine steel stem, five inches long, and bent in the centre, with a moveable bar sliding on the square portion near the handle, which latter fits over the thumb. The upper extremity is perforated with holes running parallel with the stem, and loops at the angle serve the same purpose. A fine wire, fastened to the cross-bar, passes through these loops and holes; it should be of such length that, when the cross-bar is drawn up tight to the handle, the ligature is fully on the stretch. . . . In using it, the cross-bar is pushed forward, and a noose made of the wire at the small extremity of sufficient size to include the morbid growth, which it is then made to surround, and towards the root of which it is pressed by means of the stem; the cross-bar is then drawn up smartly to the handle, while the point of the stem is pressed downwards; and it never fails of either cutting across or of drawing with it whatever was included in the noose."

The difficulty attendant upon the use of this instrument consists in getting the wire noose around the polypus, which frequently is of a very small size; another disadvantage is, that it cuts off a portion of the growth instead of withdrawing it entire. Mr. Toynbee proceeds:

"The instrument which I have been in the habit of using during several months at St. Mary's Hospital, as well as in private practice, with most satisfactory results, I have called the *lever ring forceps*, and it is on the principle of M. Luer's scissors. In the interior of the ordinary tube is the delicate steel rod, the end of which is split into two portions, to each of which is fixed a small oval ring, measuring four or five lines long and from two to three broad. These rings (the inner surfaces of which are flat) separate from each other when the lever is not pressed; but, when the lever is pressed, the rings are brought into contact. The instrument is introduced into the meatus with the rings apart; these may be made to enclose the polypus or a portion of it between them, and then, by pressing upon the lever, the polypus is seized, and can be drawn out.

"For the removal of the larger polypi, I am in the habit of using the *ring forceps*, which are made after the fashion of ordinary dressing forceps, but, instead of teeth, there is a ring at the end of each blade. The advantage of the rings is, that a portion of the polypus is securely held within them, while, with the ordinary dressing forceps, the polypus is generally broken up, and the removal of the roots is impracticable.

"I may take the present opportunity of suggesting that the Eustachian catheter should be made oval instead of round. The advantages attendant upon the oval shape are, that it passes through the nose with more facility, and with less uneasiness to the patient; and that, when introduced into the faucial orifice of the Eustachian tube, the flattened surfaces are in apposition with the flattened walls of the tube; and the discomfort produced by the pressure of the convex surface in the rounded form of the instrument commonly in use is, at least partially, avoided."

ART. 93.—*A New Mode of Plugging the Nostrils in Epistaxis.*
By Dr. LEYDET of Gardannex.

(*Rév. Méd. Chir.*, Oct., 1853.)

M. Leydet proposes to plug the nostrils in cases of obstinate epistaxis by introducing (by means of a piece of elastic bougie,) a small bladder or a bag of intestine, into the nostril, and by then inflating the bladder or bag until it is made to fill accurately the whole of the nasal fossa. The opening through which the inflation is made is provided with a screw to prevent the escape of air. For convenience of inflation, it is also recommended that there should be a piece of elastic tubing attached to the opening.

ART. 94.—*Restoration of the Entire Upper Lip.* By J. M. CARNOCHAN, M.D., Professor of Surgery in the New York Medical College, Chief Surgeon to the State Emigrants' Hospital.

(*American Med. Monthly*, Jan. 1854.)

There are but few recorded instances of restoration of the entire upper lip, after destruction of its tissues, and there are no definite and satisfactory rules as to the mode of operating in such cases. Ledran, in a case of cancer of the whole of the upper lip, endeavoured to remedy the deformity resulting from the operation, by bringing the lower lip up to the base of the nose. Lisfranc and the younger Bérard, and now Dr. Carnochan, have each succeeded in making an entirely new upper lip. In each of these instances, the Celsian method was adopted; that is, after removal of the disease by angular incisions, lateral quadrilateral flaps are detached by dissection, and then brought together in the median line. The cheeks thus contribute to the formation of the new lip, the free edge of which is constituted by the bleeding edge of the lower horizontal incisions; while the upper horizontal incisions are united to the base of the nose.

CASE.—In April last, I was consulted by a lady, Mrs. O. H., æt. 39, the wife of a planter in North Carolina. Her parents had been persons of good constitution, and her brothers, of whom she had several, are free from any

manifestation of cachectic diathesis. As early as she can recollect, she was afflicted with pains in the limbs; and, at the age of ten, the glands became affected. Lumps of considerable size would frequently form about the throat and ears, and also a lump in her left breast, about an inch and a half in diameter. A small protuberance had made its appearance on the upper lip, which, to use her expression, was said to be a mother-mark. This pimple, or mark, gave no trouble until 1836, about her 22d year of age, when it assumed the character of a sore, with but little secretion for a time, but afterwards accompanied by an unhealthy, sanious discharge. The ulceration soon became about three quarters of an inch in diameter, and seemed disposed to progress rapidly on the surface of the lip. Alarmed at this extension of her malady, she consulted some physicians of eminence, who pronounced the disease cancerous, and recommended recourse to an operation. This proposition was assented to, and an operation was performed. The wound seemed to heal favorably, and the local disease was apparently cured. Her general health, however, remained feeble, and she proceeded to Philadelphia to consult Dr. Dewees, then a distinguished professor in the University of Pennsylvania. Under the care of this physician, her general health became much improved, and for some years she remained in good health, without recurrence of ulceration of the lip. In 1845, she had an attack of malarious fever, during which the lip became tumefied, and ulceration at the seat of the old sore broke out again with more malignancy than ever. The disease again assumed a chronic form, and, under the use of some alterative medicaments, remained stationary for nearly three years. In October, 1848, another exacerbation of the disease took place, attended with excruciating pain and a slight extension of the ulceration. These symptoms were again impeded by the use, as she supposes, of sarsaparilla and some other unknown medicines. From this time the disease remained almost passive, until January, 1850; at which time, after the birth of an infant, the ulceration began to extend and to invade the entire thickness of the lip; destroying in its progress the entire substance of the lip in nearly its whole extent, from the free margin up to the base of the nose; on the right side, the ulceration also extended for more than half an inch, encroaching on the face along the side of the nose, detaching the ala of that side from the cheek for nearly half an inch. The ulceration had again become passive when the patient presented herself for my advice.

Her appearance was really deplorable. She was much emaciated, and her countenance wore the expression of intense mental suffering. The front teeth of the upper jaw were tolerably sound, but somewhat loose; the two canine teeth were partially, and the four incisors entirely, exposed; the gum, also, corresponding to the incisors, was exposed as far as the base of the nose, and was dry and purple for want of its natural covering. The ulcerative process had destroyed the entire thickness of the lip up to the base of the nose; on the right side, extending to the angle of the mouth; on the left side, to within one line of the angle of that side. The ulceration had also extended upwards on the right side of the face, beyond the level of the base of the nose, and had detached the lower portion of the ala. The edges of the ulceration were hard, thickened, and irregular; in some parts dried up, in others presenting patches of angry aspect, apparently ready to take an acute ulcerative action upon the slightest exciting cause. There was no glandular enlargement at the base, or near the ramus of the lower jaw.

Viewing the condition of this patient, with such a dilapidated system, deteriorated also by perverted constitutional diathesis, I could not be but doubtful of the success of an operation which would have for its object, not

only the removal of the diseased tissues, but the restoration of the entire substance and extent of the upper lip. The lady was remarkable for her intelligence, and I explained to her the probability of failure from the nature of her case, and the direful results which might ensue if the necessary incisions of such an operation did not unite. She replied that she wished me to perform the operation, if it were at all practicable, and that she would abide the result with fortitude and resignation. The operation was performed on the 21st of April.

Operation.—The patient being seated on a chair somewhat elevated, and placed so as to be in a favorable light,—with a piece of fine carmine, pointed, I commenced by making dots on the face, in the line of the incisions intended to be made. The lower line ran in a direction from the angle of the mouth towards a point a little below the apex of the lobe of the ear; the upper extended from the base of the nose toward the centre of the antitragus; a slight curve, with the concavity looking upwards, being given to each line. One assistant supported the head, compressing at the same time the facial arteries; while another depressed the lower lip with a light curved spatula. Passing the forefinger of the left hand along the mucous surface of the cheek, as far as the anterior margin of the ramus of the jaw, and holding in the right hand a long narrow, straight bistoury, I transfixed the entire substance of the left cheek on the lower line, at a point corresponding to the anterior margin of the masseter muscle. Carrying the bistoury towards the commissure of the mouth, the entire tissues of the cheek were now divided. Seizing the flap thus formed between the left forefinger and the thumb, and holding it upwards, the bistoury was carried freely along the line where the mucous membrane is reflected from the upper maxillary bone to the cheek, and made to separate the tissues upwards for some lines from their attachments to the superior maxilla. Still retaining the flap with the left forefinger and thumb, the bistoury was again passed through the substance of the cheek, on the upper line in front of the masseter, and carried forward so as to divide the cheek as far as the base of the nose. A quadrilateral flap was then formed of the tissues of the cheek, containing, in its substance, the orifice of the duct of Steno, which had been carefully avoided while the cuts were being made. The oral side, or edge, of this flap consisted of the indurated and ulcerating margin of the disease. With a pair of strong hare-lip scissors, this margin was removed, so as to leave a free, straight, and healthy margin.

Changing the bistoury to the left hand, a similar quadrilateral flap was then formed in the same manner, on the right side, from the tissues of the cheek, and the diseased margin disposed of, so as to leave a healthy, straight edge, corresponding to the same edge of the opposite flap. The bistoury was next carried transversely across the base of the nose, so as to remove the diseased margin at that part, and, at the same time, to vivify the tissues in that direction.

There still remained that portion of the disease which required removal, extending, for about half an inch, along the right ala of the nose. This was removed by incisions so fashioned as to form a triangle, and so as to leave healthy margins, free from any induration.

It now remained to bring together the various bleeding edges thus vivified, and to retain them together by the twisted suture. An assistant now pressed forward the quadrilateral flaps of each side, so as to bring in contact, on the median line, the vertical margins of the two flaps. Four suture pins, suitably placed, maintained the apposition in that direction. A pin on each side was now inserted, so as to regulate the transverse extent of the mouth, and to

form the new commissures as near as possible in the site of the old. To unite the lips of the wound in the line of the lower horizontal incision, four pins were inserted on each side; and to effect the same end, along the line of the upper incision, four more pins on each side were inserted. Apposition of the bleeding surfaces across the base of the nose was effected by means of four points of interrupted suture; and three additional points of suture were used to bring together the edges of the triangular loss of substance along the ala of the nose.

The free border of the new lip, formed by the lower margin of the flaps of each side, united in the median line, still presented a bleeding surface. To obviate this, and to regulate the shape of the prolabium, the mucous membrane lining the new lip was drawn over the bleeding edge, and incorporated by four points of twisted suture with the tegumentary tissue.

During the operation, there was a considerable flow of blood; but this was easily arrested by the application of the sutures.

Patient went on well until the next day, April 22d, at midnight, when she complained of a good deal of pain in the right cheek and forehead. This was eased immediately by applications of Tincture of Aconite.

April 23rd.—A slight puffiness of the right side was observed; this commenced at the root of the nose and gradually extended until the upper portion of the cheek and eyelids were considerably swollen.

April 24th.—Patient comfortable, and swelling of right side considerably diminished.

April 25th.—Swelling almost entirely disappeared. Five pins removed this day from points where union seemed most complete. Three suture ligatures also removed; patient feels very well.

April 26th.—Favorable symptoms continue; eight pins removed, one of which is from the mesial line of union of the lip. Union has taken place along all the incisions, except that at the base of the nose. Here, at the point where the interrupted sutures were used, there is suppuration for about one third of an inch. The points of suture at the angles of the mouth and at the lower part of the labial median incision, still allowed to remain, although there is adhesion at these places. The sutures along the prolabium removed. Patient complains of weariness from want of exercise, but feels perfectly well otherwise; pulse 98.

April 28th.—Removed seven more of the pins. Still leave in those at the angles of the mouth. Patient tolerably comfortable. Union at the angles of the nose has not taken place by adhesion; apparently the surfaces begin to granulate in a healthy manner. No fever; pulse somewhat irritable; continues to use fluid material for food.

April 29th.—Removed the pins at the angles of the mouth, and the two lower pins at the median line of union of the lip. Union perfect everywhere¹ along the incisions, except at the base of the nose—slight adhesions here. Granulating process proceeding well. Patient much more comfortable to-day than since the operation.

April 30th.—The parts along the base of the nose continue to granulate healthily. A slight slough is evidently being thrown off along the median line of union of the lip, nearly as far as the free border, though not through the entire tissues of the new lip. The entire line of all the other incisions has firmly united.

May 1st.—Dressed the lip. The slough separates, and will probably leave the new lip entire.

May 2d.—Dressed the lip. The slough continues to separate; it is superficial, and leaves the lip entirely continuous. General health as good as usual.

May 3d.—The slough has separated and proves to be merely superficial. Granulation is proceeding well. Patient comfortable.

May 4th.—The lip where the slough separated is granulating finely, and new skin is beginning to appear. Patient feels well.

May 14th.—Union complete; cicatrisation perfect. New lip formed. Shortly after this date, the patient left New York for *her own home*, with the character of her face restored to its natural aspect, and in much better health and spirits than she had been for many years; feeling, as she remarked, as if she “inhabited another body.”

ART. 95.—*Amputation of the Tongue.* By M. MAISONNEUVE.

(*Gazette des Hôpitaux.*)

This case is peculiar, in the supposed cause of the affection, and in the complete recovery of speech.

“CASE.—Dr. J—, corresponding member of the Academy of Medicine, and President of the Committee of Vaccination, had been for several years in the habit of sending to the Departments liquid vaccine-matter, preserved in small tubes. The matter was put up by himself, and, as a consequence, he had been in the habit of holding a certain number of glass tubes in his mouth. The sharp points of the glass induced punctures on the tongue, frequently followed by small pimples. The pimples would generally disappear in a few days; but, in time, an induration supervened, and became, by its persistence, the origin of a grave disease. In fact, tormented by the persistence of the induration, Mr. J. endeavoured to remove it by cauterization. He first employed nitrate of silver; then, acid nitrate of mercury; but this medication aggravated the disease, instead of arresting its progress. Epidermic tubercles were developed all over the surface of the tongue, and subsequently a deep ulceration invaded the central part of the organ. By the advice of friends, he submitted to the energetic cautery of red hot iron; an operation which had the effect of giving still greater activity to the disease. All the anterior part of the tongue, nearly as far as the calciform papillæ, became the seat of ulceration; while at the same time, the central ulcer was making rapid progress. To these symptoms were soon added lancinating pains, which entirely deprived the patient of rest. He consulted Dr. Ricord, who submitted him to the iodide of potassium. Despite this treatment, the disease gained daily; the tongue enormously tumefied, ended by obstructing the buccal cavity; the efflux of saliva was continuous; speech became impossible, and the patient was compelled to restrict himself to liquid aliments. It was in these conditions, that, by the advice of Dr. Ricord, the patient came and consulted me. In the presence of a disease of such gravity, against which the most rational medication had been found powerless, I believed myself justified in proposing amputation as the only resource. It was performed on the 24th of August, at Dr. Pinel's *Maison de Santé*, in the presence of Drs. Larry, Ricord, Richard, Dumolet, Lauglebert, and Pinel. The patient having been submitted to chloroform, I first incised, on the median line, the lower lip and the soft parts of the chin. Next, with a chain saw, I made the section of the lower jaw; the two branches of which being thus separated, I was enabled to grasp the tongue, and draw it out. By a rapid dissection, the diseased organ was then separated from the healthy parts, as far as beyond its anterior half, and over an extent of one inch. The sublingual gland had also to be sacrificed. Ligatures were applied upon the important vessels, so as to prevent hæmorrhage. After this operation, the branches of

the jaw were brought together, and maintained in contact, by means of thread rolled round the incisor and canine teeth; the ligatures placed upon the vessels were directed under the chin, in the inferior angle of the chin; and the edges of the division were united by means of the twisted suture. Notwithstanding the extreme gravity of this operation, no accident resulted. The union of the external parts was effected by first intention; the enormous loss of substance was rapidly repaired; the bones became consolidated; and what is remarkable, forty days after the operation, the patient had recovered his speech, and the faculty of seizing and masticating his food. On examination, the tumour was found to belong to the class of epithelial cancrioids."

ART. 96.—*On the Operation for Split Palate.* By Professor SYME.

(*Edinburgh Monthly Journal*, April, 1854.)

"The alleged advantage of dividing the muscle of the palate to promote union is," writes Mr. Syme, "an entire delusion of those who believe in it; since a partial division could, of course, produce no good effect, while a complete one is impracticable, and, if accomplished, would be useless. The muscles proposed to be divided are the levator-palati and the palato-pharyngeus. These muscles are not slender threads, but fleshy masses of considerable thickness and breadth, occupying a very deep, inaccessible, and irritable part of the fauces. But in the performance of myotomy, or even tenotomy, tension of the texture to be cut is well known to be essential for its complete division; and, as in the case of split palate, the attachments of the muscles having no fixed point of resistance, this state of tension cannot be induced, the operation proposed would be nearly, if not quite, impracticable, even under circumstances of the most favorable kind, which place the part to be divided within reach of sight and touch. The knife which Mr. Fergusson has recommended for the purpose should alone be sufficient to excite serious doubts as to the practicability of accomplishing the object in question; and if any one believes that he could divide completely the lax and yielding bellies of the palatal muscles by such means, his ideas of operative procedure must be very different from those which most anatomists would be led to entertain from their acquaintance with the animal tissues and the power of instruments upon them. That the muscles in question may be wounded or partially divided I readily admit; but that they can be completely cut across, and, still more, that they can be so with certainty, I no less positively deny. And if the division is only partial, it must be equally incompetent to produce the effect desired, as an imperfect section of the adductor muscle of the eye-ball is found to be for the cure of squinting.

"The next point for consideration is the amount of advantage to be expected from division of the palatal muscles, supposing it were practicable. If they remain undivided, it is said there will be a constant tendency to separate the raw edges, and prevent union; while, if they are divided, the palate being rendered lax and flaccid will be in the most favorable condition. But, it may here be asked,

does the presence of muscular contractility in other situations impede union? and does a flaccid state of the textures concerned tend to promote it? In harelip, when the patient cries the edges of the fissure are drawn so completely aside as nearly to efface the appearance of a lip; yet, if the operation be properly performed, no inconvenience is experienced from this source, and a sound union is accomplished with almost absolute certainty. In wounds of the eye-lids or cheek, even when attended with a considerable loss of substance, and when the raw edges are widely separated by the muscular contraction, no difficulty is found in keeping or uniting them together. It seems, indeed, as if, through some intuitive influence of the vis medicatrix, the muscles of the part concerned cease to contract with violence, and merely give that degree of tension or firmness which is well known to favour the adhesive process. On the other hand, there can be no doubt that if the palate admitted of being rendered perfectly lax and flaccid, it would then become very unfavorably situated, either for the performance of the operation, or for the accomplishment of a satisfactory result, since, as every practical surgeon knows, there is nothing more opposed to sound union between the surfaces of a wound than the soft and flabby state which results from redundancy or relaxation of the textures. From what has been said, it will, I trust, appear that complete division of the palatal muscles is impracticable; that it is not requisite for a successful issue; and that, so far from being so, it would really be adverse to the object in view.

"I may here remark, that very serious doubts have been entertained as to the expediency of performing this operation at all, since it cannot be attempted with any prospect of success until the patient is old enough to abstain from voluntary resistance; and then the organs of voice have become so practised in overcoming the difficulties of their imperfect condition, that closure of the fissure, so far from being always beneficial, sometimes appears injurious to the distinctness of articulation. But as the operation, if undertaken, should be conducted so far as possible to assure a satisfactory result in regard to the accomplishment of its immediate object, I shall now offer some remarks upon the different steps which are required on the occasion; and as it may be supposed that, although the principle of Mr. Fergusson's operation has seemed to me so questionable, there is, perhaps, something in the mode of its performance deserving of attention, it will be proper to inquire particularly into the method which he recommends.

"Mr. Fergusson advises that, in the first place, the muscles should be divided by cutting on each side deeply into the pterygoid fossa with his triangular knife, and then using scissors to complete the process. Now, granting that the object in view may be thus accomplished, which I entirely disbelieve, it is at all events evident that the patient's throat must be in a painful, irritable, and bleeding state when the next step is undertaken. But this step is of the most essential importance, since it is nothing less than placing the edges of the fissure in a condition admitting of their sound union, by paring them so smoothly and accurately that, without any undue loss of substance, the two raw surfaces may allow of perfect adaptation.

How a process so nice and delicate is to be executed when the parts are obscured by blood, and the patient's power of self-command has been impaired or expended in enduring the much more painful preliminary proceeding, I am at a loss to understand any more than the possibility of paring the edges of the fissure, as Mr. Ferguson advises, by seizing the uvula, and cutting towards the commissure, especially with such a knife as the one he recommends for the purpose, which is thick and narrow instead of being thin and broad as it ought to be. How the stitches are to be got in does not very clearly appear from Mr. Fergusson's description; but his advice to take them out on the second or third day seems in the highest degree objectionable, since the union, however perfect in the first instance, can then have little power of resisting pressure, either from food or the tongue, independently of the disturbing influence of the pharyngeal muscles. The threads should penetrate the whole thickness of the palate, and be tied with no more force than is sufficient to retain the edges in contact, so that, in the event of union taking place, they may neither cause sloughing of the portion included, nor cut their way out by ulcerative absorption. In the case of a young lady, on whom I lately operated with such success that the adhesion was complete to the very tip of the uvula, one stitch was removed on the eighth and the other on the tenth day.

"In performing the operation, the best way of proceeding is to place the patient on a chair in a good light, then to seize one edge of the fissure at its middle by sharply-pointed forceps, and introduce the knife, which should be thin and lancet-shaped (like the one of this form used for the extraction of cataract), a little above the commencement of the cleft, and cut evenly down from this point to the extremity of the uvula, so as to detach a slice of sufficient thickness to expose the submucous textures. The same process being repeated on the other side of the fissure, nothing remains but to introduce the stitches, which is best done by means of a slightly curved needle with fixed handle, which should be directed from without inwards, first on one side of the fissure, and then on the other. The two inner ends of the thread being then tied together, one of the other ends is to be pulled until the knot is drawn through the edge of the palate, and sufficiently far out of the mouth for the purpose in view. Two stitches are sufficient, one being placed at the root of the uvula, and the other midway between this point and the angle of the edges of the fissure. The threads should be tied with the "reef knot," and in doing so, resiliency of the textures may be counteracted by keeping the threads in a state of tension. For at least two days the patient should subsist entirely upon fluids, and of these even have a very sparing allowance. He should also, of course, avoid talking, coughing, sneezing, and all other actions calculated to disturb the uniting process."

ART. 97.—*Case of Fracture of the third Cervical Vertebra, with displacement, in which the patient lived for seven days.* By Dr. THOMAS DAVIS, of Manorhamilton.

(*Dublin Medical Press*, April 5, 1854.)

This case possesses several features of interest.

"CASE.—Patrick McManus, æt. 18, labourer, was admitted to the infirmary attached to the Manorhamilton workhouse, on the 2nd. inst., for an injury received five days previously. The statement he gave was, that on the 25th of February, when standing on a ditch, a man came behind and struck him with a grape in the neck. The blow knocked him down. While lying on the ground, two cows trampled upon him. Since this time he has been suffering excruciating pain all down the left side, but he was able to move his arm and leg a little until lately. On his admission he presented the following appearances: He lies on his back, with the left hand thrown across the chest; his countenance is anxious and flushed; he complains of intense pain in the left arm; he can move the right arm and leg, but there is complete loss of motion in the opposite side; sensation is perfect; the respiration is laborious, and appears to be performed both by the diaphragm and the muscles of the neck and chest on the right side; the skin is burning hot, with the exception of the feet, which are cold; the pulse strong, 100; the tongue furred, similar to a patient's in an early stage of fever; the abdomen is tympanitic, but there is no tendency to priapism; his intellectual faculties are perfect. With difficulty I persuaded him to allow himself to be turned a little in the bed for the purpose of examining the wound caused by the grape. It was situated high up, close to the hair, about an inch to the left of the spinous processes of the cervical vertebræ, it was of trifling extent, and seemed to be in a healing state. As the bowels have not been moved for some days, he was ordered a castor-oil draught with peppermint water, and to have heat applied to the feet.

"March 3rd. The bowels were freely opened, but the patient appears much worse than at last visit. The respiration is more laborious, and he has passed no water since last evening; the skin is hot, although the nurse states "there was a nice perspiration out on him during the night:" the thirst great; pulse 90, small; he can still move the right arm and leg. Passed a catheter, and drew off about a pint and a half of dark-coloured urine. He continued to sink until next day, when he died, apparently asphyxiated, his intellect being unclouded up to the last moment.

"Previous to his removal to the infirmary, this boy was attended as a dispensary patient by my friend Dr. Tate, of Manorhamilton, and I am informed by him that he then presented no symptoms of paralysis.

"*Examination forty hours after death.*—A probe passed readily through the wound in the neck as far as the vertebra. On carefully dissecting the parts, I discovered a fracture of the third cervical vertebra passing through the transverse process and body in an oblique direction from the lower articular process. The upper fragment of the bone was driven inwards, or rather twisted, and from it a spicula of bone had become detached, which, although it had not actually penetrated the substance of the spinal marrow, caused an indentation in the dura-matral sheath on the left side. There was some extravasation of blood and considerable turgescence of the vessels in the neighbourhood of the injury; but below this, both the spinal marrow and its coverings appeared healthy. The left lung was congested and dark-coloured,

presenting the solid appearance of liver. The right lung was healthy and filled with air. The heart presented no abnormal appearance.

All our surgical authorities agree that fractures above the fourth cervical vertebra prove rapidly fatal. The foregoing case is therefore worthy of notice from the length of time the patient survived such a serious injury. To account for this, it is probable that there was no displacement of the bone until the period he was removed in a common cart to the hospital, and that the jolting he received on the way set free the spicula, which was found in the spinal canal. The latter being wider in the cervical than in the dorsal region, and the spicula small, may account for the length of time he lived. The paralysis being partial is also worthy of remark.

ART. 98.—*Exercise of the Voice in ulceration of the Larynx.*
By M. TROUSSEAU.

(*Dublin Medical Press*, Feb. 22, 1854.)

In the *Journal de Médecine et de Chirurgie Pratique*, we learn that in the laryngeal ulceration which frequently complicates pulmonary consumption, M. Trousseau applies, as local remedies, solution of nitrate of silver, calomel with finely powdered sugar, nitrate of bismuth with sugar, arsenicated cigarettes, fumigations with chlorine, iodine, &c., and instead of prescribing silence, as all writers have done, he orders his patients to speak. He thus employs a mode of treatment analogous to that adopted in cases of ulceration of the leg by M. Boyer, and which is advocated in this country by Mr. Chapman and others. M. Boyer allowed his patients to walk about, and follow their ordinary occupations, when their legs were bandaged; and the result was a more rapid and solid cure, the cicatrix acquiring a strength which rendered subsequent laceration of comparatively unfrequent occurrence. M. Trousseau waits until the acute or painful stage of the disease has passed; he then submits his patients to a course of gymnastic exercises of the voice and speech. He is careful not to make them speak in a low voice; having learned from priests, many of whom lose their voice, that the confessional fatigues the larynx more than preaching in a large church. During four or five months, at least, the patient reads slowly and aloud five or six times daily, taking care at the end of each period or member of a period, to inspire as much air as the lungs can contain. He must make deep inspirations, and then emit several sounds in succession without exhausting the provision of air. He then inspires again, and emits fresh sounds, always avoiding the higher notes, which are fatiguing. If, after several months, the voice remains false or obscure, we may employ a process which was the secret of a professor of singing named Larochette, but which M. Trousseau accidentally discovered. Larochette used to desire singers who had lost their voice, to take as deep an inspiration as possible, and then suddenly, and in as little time as possible, to emit a short shrill note, expelling all the air which they had inspired. M. Trousseau has seen many persons who had lost their voice for years, recover it in a fortnight under this treatment. It must be remembered, however, that vocal gymnastics have succeeded only when the ulceration of the larynx has been cured, and when the aphoma has

been, properly speaking, only a want of power arising from the prolonged rest of that organ.

ART. 99.—*Extraordinary operation on the Subclavian Vein.*
By a Non-Professional Person.

(*Scalpel; and Amer. Med. Monthly*, Jan., 1854.)

The following narrative is given to show the value of self-control and common sense in scenes of danger, and the resources of nature under the most desperate circumstances.

“Edward T. Hinckley, of Wareham, Mass., then mate of the barque Andrews, commanded by James L. Nye, of Sandwich, Mass., sailed some two years and a half since (we find the date omitted in our minutes), from New Bedford, Mass., on a whaling voyage. When off the Gallipagos Islands, one of the hands, who had shown a mutinous disposition, attacked Captain Nye with some violence, in consequence of a reproof given him for disobedience. In the scuffle which ensued, a wound was inflicted with a knife, commencing at the angle of the jaw, and dividing the skin and superficial tissues of the left side of the neck, down to the middle of the clavicle, under which the point of the knife went. It was done in broad day, in presence of the greater part of the crew; and Mr. Hinckley, the mate, being so near that he was at that moment rushing to the captain's assistance. Instantly seizing the villain, and handing him over to the crew, the knife either fell or was drawn by some one present, and a frightful gush of *dark* blood welled up from the wound, as the captain fell upon the deck. Mr. Hinckley immediately thrust his fingers into the wound, and endeavoured to catch the bleeding vessel; with the thumb against the clavicle as a point of action, and gripping, as he expressed it to me, ‘all between,’ he found the bleeding nearly cease. The whole affair was so sudden, that Mr. Hinckley stated to me, he was completely at a loss what step to take. Such had been the violence of the hæmorrhage, a space on the deck fully as large as a barrel head being covered with blood in a few seconds, that it was evident, from that and the consequent faintness, that the captain would instantly die should he remove his fingers from the bleeding vessel. As Mr. H. said to me, with the simplicity and straightforward style of a seaman, ‘I brought to for a minute, to think over the matter. The bleeding coming upwards from under the collar-bone, and being completely concealed by it, it was plain enough that I couldn't get at the blood-vessel, without sawing the bone in two; and this I would not like to have tried, even if I had dared to remove my fingers. Feeling that my fingers' ends were so deep as to be below the bone, and yet the bleeding having stopped, I passed them a little further downwards, still keeping up the pressure against the bone with the middle joints. I then found my fingers passed under something running in the same course with the bone; this I slowly endeavoured to draw up out of the wound, so as to see if it was not the blood-vessel. Finding it give a little, I slowly pulled it up with one finger: *when I was pulling it up, the captain groaned terribly*; but I went on, because I knew I could do

nothing else. As soon as I could see it, I washed away the blood, and was astonished and very glad to see there were two vessels, as I supposed them to be, one behind the other: *the cut was in the front one.* It was the full breadth of the knife, or about half an inch, and neither across nor lengthways, but about between the two, and went about half its thickness through the blood-vessel: *it was smooth and blue* in appearance; and the cut had stopped bleeding, as I supposed at the time, because the vessel was pressed together by being stretched across my finger. As I had often sewed up cuts in the flesh, and knew nothing about tying blood-vessels, and supposed that was only done when they were cut in two, as in amputated limbs, I concluded to try my hand at sewing it up; so I took five little stitches; they were very near together, for the wound was certainly not half an inch wide, if so much. I twisted the ends together loosely, so as to make one large one, and let it hang out of the wound over the bone; then I closed all up with stitches and plasters. On the fourteenth day I found the strings loose in the wound, from which matter had freely come: it healed up like any other cut.'

"The practical anatomist and surgeon will at once see the internal evidence of the entire truthfulness of this extraordinary narrative, and the certainty that Mr. Hinckley must have closed up a wound in the subclavian vein. Aside from the position of the wound rendering any other explanation impossible, and the colour and amount of blood instantly lost, the fact that a wound of the subclavian artery must have been followed by aneurism, if not instant death, renders the conviction unavoidable that it must have been the vein. Indeed, it is impossible to suppose, aside from Mr. Hinckley's high character and the corroboration of the log-book, that such a story could have been devised by any but a surgeon of decided practical ability. We may be mistaken in our views of its importance, but we think that in the estimation of our professional readers we have placed upon record one of the most extraordinary circumstances in the whole history of surgery."

(B) CONCERNING THE CHEST, ABDOMEN, AND PELVIS.

ART. 100.—*A case of complete dislocation of a Dorsal Vertebra, without fracture.* By M. ROBERT.

(*Archiv. Gén. de Méd.*, Dec. 1853.)

This case appears to be the only one of the kind on record. It is of interest for other reasons besides its rarity, for it has been denied that a dorsal or lumbar vertebra can be dislocated without the occurrence of fracture. It was brought before the Parisian Surgical Society, and we copy it from their report.

"CASE.—This accident occurred to a man, æt. 25, who was engaged in elevating a ponderous scaffolding pole. He appears to have been standing in the deep hole which had been prepared to receive the end of this pole, with this end resting upon the upper part of his back, when his strength failed him, and the pole descended and crushed him over the edge of the hole. On ex-

tricating him, the lower half of his body was found to be completely paralysed, but no projection of vertebræ could be detected in the back. He died eleven days after, without experiencing any relief, head symptoms having supervened towards the close of life. After death, the body of the 5th vertebra was found to be separated from the body of the 6th. The body of the 6th vertebra projected inwards into the mediastinum, in which space a considerable quantity of blood was effused. The anterior and posterior great common ligaments of the spinal column were completely torn asunder at the point, as was also the intervertebral substance, a small portion of the latter remaining attached to the body of the 5th, and the larger portion to the body of the 6th vertebra. The articular processes of the dislocated vertebræ were completely separated, the superior articular processes of the 6th vertebra being carried quite in advance of the inferior articular processes of the 5th vertebra. The ligaments connecting these processes, except those composed of elastic tissue, were ruptured. The spinal marrow was completely diffuent for some distance above and below the point of dislocation, but the injury to the bones was confined to a single articulation."

ART. 101.—*The pathology and treatment of Lateral Curvature of the Spine.* By MR. WILLIAM ADAMS, Assistant-Surgeon to the Royal Orthopædic Hospital.

(*Lancet*, March 18, 1854.)

In this paper the author does not enter at any length into the consideration of the causes and symptoms of lateral curvature, except in so far as is necessary to the consideration of the general pathology of the subject; nor does he consider in detail any particular plan of treatment. His object is to show reasons for restricting the application of the term, lateral curvature of the spine, to a certain class of cases, the conditions of which are fixed and definite; to draw attention to such points in the morbid anatomy as he had been enabled to verify or establish by his own investigations; to examine the existing pathological doctrines in explanation of those phenomena; and to consider the general principles of treatment to which these conditions especially point. He observed that we hear a great deal about the "cures" of lateral curvature of the spine in these days, but his opinion was, that by far the larger proportion of such cases are derived from cases which possess no scientific or pathological claim to be considered really as cases of true lateral curvature, and he thought it would be of the utmost practical importance, especially in reference to the results of treatment, to define the anatomical characters of the cases described. He desired to limit the application of the term to those cases only in which the curvature was fixed and permanent, the curvature being always in the same direction and situation, and never disappearing in any position of the body. An example of the cases which this would exclude was then given, characterised by slight lateral curvature in the lower dorsal region to the right side, increased mobility, and slight prominence of right shoulder. These appearances would disappear on lying down, either spontaneously, or with very slight pressure and counter-pressure. Mr. Adams remarked that this would generally be considered a case of lateral curvature in the first

stage, or an incipient lateral curvature of the spine ; but he proposed to exclude this class of cases for the following reasons—viz. : Although all spinal curvatures of the most common and uncomplicated form, which alone were discussed in this paper, must pass through this stage, only a per-centage of such cases, probably one fourth, would become true spinal curvatures, three fourths would probably get well without any special treatment, attention only being directed to the improvement of the general health, and with it of necessity to the increase of muscular power, &c. In these cases, moreover, there was no evidence of structural alterations in the intervertebral cartilages, such as Mr. Adams believed to be essential to the production of true or fixed lateral curvature, however slight. These cases the author proposed to group under the head of “threatened lateral curvature of the spine,” and considered that the great majority of the so-called “cures” of lateral curvature were derived from these cases, together with some really in the first stage of true lateral curvature, which became arrested rather than cured under treatment. The nature of the structural changes which Mr. Adams had been able to trace in the different stages of true lateral curvature is then described; these changes referred chiefly to lateral absorption of the intervertebral cartilages and bodies of the vertebræ, together with enlargement and alteration in form of the articular processes, the articular facets of which become altered in direction where rotation is combined with lateral curvature. He has not been able to verify the statement generally made with respect to the ligaments—viz., their elongation on the convexity and contraction on the concavity of its curve,—and gave reasons for doubting its accuracy. The condition of the muscles was discussed at some length, and the author considered more extended observations of their structural conditions in the advanced stages would render material assistance in determining the accuracy of M. Guérin’s theory of the production of spinal curvature by active muscular retraction. The commencement of these structural changes, the author considered to be coincident with the period of fixity of the curve, and proposed therefore to make this the diagnostic symptom of “true lateral curvature,” as distinguished from “threatened lateral curvature” above adverted to. The practical importance of this point was particularly insisted upon, as enabling us to determine a fixed line, on either side of which our opinions, with respect to the indications for treatment, and its probable results, must be most materially modified. In the one case the affection is to be regarded as one of functional disorder, and in the other as one essentially and immediately dependent upon structural changes of important textures. Reparative processes, in the form of ankylosis, by plate-like and nodulous growths of new bone from the margins of adjacent vertebræ, and also in the increased density of the cancellous tissue of the bodies of the vertebræ, and their outer walls in the concavity of the curve, are minutely described. The principal theories, or pathological doctrines, in explanation of the phenomena described are then discussed. M. Guérin’s theory of active muscular retraction caused by material alterations of the nervous centres, together with his classification of the varieties of this deformity in respect of the intensity of the cause

assigned, are discussed at length. Mr. Adams considers this view to be erroneous, as applied to the ordinary cases of lateral curvature, and in his experience at the Royal Orthopædic Hospital he has not been able to find a single example in any form sufficiently satisfactory to induce him to adopt the practice arising out of it—viz., the subcutaneous division of muscles. Mr. Adams related the particulars, and exhibited the cast, of a slight case of lateral curvature in a young lady who had consulted both M. Guérin and himself. M. Guérin proposed operation, and stated his opinion in writing, that he believed mechanical treatment totally incapable of effecting a cure, and doubted its power of producing any amelioration of the deformity. Mr. Adams completely cured this case by mechanical treatment in nine months, and she now remains well. Mr. Dod's theory of rotation of the vertebræ was adverted to; but as the author considered the facts upon which it is based either as forming complications in the most aggravated forms of lateral curvature, or as constituting a peculiar form or variety of curvature, he dismissed it from the present paper. The theory which ascribes lateral curvature to a mechanical cause derived from the weight of the head and upper extremities, acting under the circumstances of muscular and ligamentous weakness, the direction and situation of the curve being determined by special circumstances, is next discussed, and considered by the author to be most satisfactory. In accordance with this view, the indications for treatment, in the cases of "threatened curvature" and of "true lateral curvature," are described as follows:—In the former, first, to improve the general health, and increase the muscular power generally; secondly, to diminish the functions of the spine as a supporting apparatus to the head and shoulders; thirdly, to avoid such habits as tend to disturb the balance of muscular action, as standing on one leg, sitting awry, or for any length of time in one position, raising one arm more than the other, &c. The statement previously made, that three fourths of these cases will get well without any special treatment for the spine, the author conceives to be borne out by the results of Sir B. Brodie's extensive and prolonged experience, as recorded by him in a clinical lecture in the 'Medical Gazette' for Dec., 1846. Mr. Adams has no confidence in any system of special muscular exercises whereby the muscles of one side of the spine are sought to be particularly developed. In cases of "threatened lateral curvature" such a proceeding is not indicated; and in cases of "true or fixed lateral curvature," where theoretically it may be supposed to be indicated, the author believes it to be a practical impossibility for two reasons: first, the anatomical difficulty of stating precisely, in any given case, the exact muscles and portions of muscles, the increased power of which would act beneficially on the deformity; and secondly, the impossibility of strengthening those particular muscles and portions of muscles, if they could be selected, without at the same time strengthening others, the increased action of which would at least neutralise their effect. There being no evidence, in ordinary cases, that the muscles of one side are weaker than those of the other, the author recommends general gymnastic exercises of a light and easy description. The inclined plane he objects to, especially as an ex-

tending apparatus, and considers a common sofa to fulfil the essential indication of rest and the horizontal position during two or three hours a day at different periods. If three fourths of such cases will get well under such treatment, it must ever be remembered that one fourth will as certainly get worse, and true or confirmed lateral curvature become developed. The indications for treatment in these cases the author considers to be the same as in those of threatened curvature, only in respect of the improvement of the general health and diminution of the mechanical functions of the spinal column. As regards muscular exercises and muscular development, he considers them to be precisely reversed. If all the muscles of the spine could be at once raised to their maximum of power, the effect would be to arrest the curvature at that point, and we frequently see cases arrested in the first and second stages where the general health and muscular power have been improved, but no advance would be made towards straightening a crooked spine. This, which must be considered the main object of treatment, can only be accomplished to a greater or less extent, according to the circumstances of the case, by mechanical treatment, which also has the advantage of promoting improvement of the general health, by removing the symptoms of pain, aching, irritability of stomach, without interfering with any of the ordinary comforts of life. When you cannot promise your patients even any diminution of the deformity, you can most confidently assure them that the symptoms will be greatly relieved or entirely removed, the latter being the rule. This point was illustrated by the description and casts of the case of a lady, aged forty, in whom the curvature was of the most aggravated form, had existed nearly thirty years, had greatly increased during the last ten years, and in whom the symptoms were of the most severe and distressing character. All other plans of treatment had been tried and failed in this case, but by mechanical support the symptoms were completely removed, the general health restored, and the curvature very perceptibly improved.

ART. 102.—*Case of Recovery after Laceration of the Liver.*

By Mr. HAMMOND.

(*Lancet*, Dec. 10, 1853.)

This case is full of pathological and practical interest, for it furnishes proof that a patient may survive this very grave accident.

CASE.—W. H., æt. 33, a painter, of temperate habits, was admitted, April 30th, 1853, into Guy's Hospital, under the care of Mr. Hilton.

About two years ago the patient had three epileptic fits at considerable intervals, but he has had no recurrence of them since that time, although his head had never been quite comfortable, and he had been exceedingly irritable. Whilst engaged in glazing the roof of a saw-mill at Lambeth, the stage on which he was standing gave way suddenly, and he fell thirty-five feet to the ground upon his right side; he was immediately put into a cab and brought to the hospital.

When admitted, the man was in a state of collapse; the surface of the

body cold and clammy; the countenance pale and sunken; pulse small, quick, and feeble. There was a lacerated wound, one inch and a half in length, immediately above the right eyebrow, laying bare the subjacent bone; several smaller ones on the chin, and another on the left hand, caused by some glass which fell upon him. He complained of great pain and tenderness in the centre and right side of the abdomen. The wounds on his face and hand were strapped up, and cold water dressing applied.

Influenced by the patient's general symptoms and the position of the local injury, it was thought probable he had suffered rupture of some internal viscus, possibly intestine or liver. Acting upon this suspicion, Mr. Hilton ordered the patient to be deprived of food, except a little simple fluid now and then to relieve the thirst, to be kept under the influence of opium, and the local treatment to be directed to the abdomen. Ordered two grains of opium immediately, and one grain after four hours.

Nine p.m.—Reaction has supervened, but not perfectly; he lies on his back with his legs drawn up, complains of great pain in the abdominal region, and cannot bear any pressure on his right side or round the umbilicus; his breathing is entirely intercostal; pulse small and labouring; no vomiting; has passed a small quantity of urine. Ordered thirty leeches to the abdomen, and one grain of opium every sixth hour.

Second day.—The patient has passed a very restless night, and suffered great pain in the abdomen, which is distended and tympanitic, the tenderness extending over a large surface. He lies in the same position with the legs drawn up; breathing thoracic; skin hot and dry; tongue furred; pulse small, hard, and quick. Mr. Hilton ordered thirty more leeches to be applied to the abdomen, and the opium to be taken every fourth hour.

Same day, nine p.m.—He has passed small quantities of high-coloured urine during the day; the bowels have not been opened; he has had no vomiting; abdomen very tense, the tenderness extending over nearly the whole surface; he complains very much of thirst. Forty more leeches to the abdomen; mercury with chalk, three grains, and opium one grain every fourth hour.

Third day.—He has had a better night, and slept two or three hours. The abdomen is very painful and tympanitic; he passed his urine several times, but the bowels have not yet been opened; pulse 120, small and hard; has vomited twice after taking the powder; complains very much of intense thirst. Ordered to have ice to suck, and to go on with the opium, but to omit the mercury and chalk, as it was thought that this might be the cause of the vomiting; and as the constitutional influence of mercury seemed necessary to compete with the inflammatory condition, Mr. Hilton ordered mercurial ointment to be used.

At two p.m. he continued much the same. Half a grain of opium every third hour, and mercurial ointment to be rubbed into the groin.

Same day, nine p.m.—Has not quite so much pain in the abdomen; pulse 108, softer; no vomiting since the morning.

Fourth day.—Has passed a much more comfortable night; lies this morning with his legs extended; the abdomen is not quite so tender, he has but little pain, and scarcely any tenderness on pressure; has passed a larger quantity of urine; the bowels have not been opened; he has vomited once, but brought up little except the ice-water; the respiration is slightly abdominal; pulse 112; he still complains very much of thirst. Go on with the mercurial friction and the opium.

Fifth day.—Had a very good night. Abdomen still very tympanitic, but there is much less pain. The bowels have not been opened, and the patient

has passed a large quantity of urine. Tongue furred and very dry. Pulse 104, full. He has vomited once this morning; the thirst still distresses him very much. Ordered poppy fomentation to the abdomen, and to go on as before.

Sixth day.—Has slept well, and feels much better; the tympanitis is very little reduced, but he has no pain or tenderness in the abdomen; he has passed his urine freely; the bowels have not been opened; tongue dry, but cleaner; pulse 80, and full; his mouth is not at all sore. To continue the ointment and fomentation, but to have half milk.

Seventh day.—Has passed a comfortable night, and slept well; his bowels have been opened four times since yesterday; he has no pain in the abdomen, which is not quite so tense; tongue dry and cleaner; pulse 84, full and soft. Beef-tea.

Eighth day.—Bowels are very relaxed; the abdomen is less distended, and he has no pain; tongue dry; pulse 80. Repeat the opium and fomentations, and to have beef-tea.

Ninth day.—He feels much better; the abdomen is but little distended, and quite free from pain; the wound on the forehead is healing; tongue moister; pulse 80. Omit the opium.

Eleventh day.—The patient has had a good night, and feels much better; his bowels are somewhat relaxed, but he is not nearly so thirsty; tongue clean and moist; pulse 86. Diet to be improved.

Twelfth day.—He appears much the same; the bowels are still relaxed; he complains of a much diminished sensation in the fingers of the right hand.

Fourteenth day.—Feels better; pulse 96; tongue clean and red. The wound in his forehead is suppurating, and the eyelid swollen and painful. Fifteen grains of carbonate of potass in almond mixture. From this time the abdominal symptoms disappeared; head complications now supervened, and it was thought the patient was beginning to suffer from abscess in the brain and phlebitis.

Fifteenth day.—The pus from the wound having burrowed down to the eyelid, it was let out by means of a lancet.

Twentieth day.—He is not so well to-day; suppuration is still going on in the wound, and there is considerable tumefaction of the surrounding parts, with pain and extreme tenderness. The patient complains of a sense of confusion in his head, and has not recovered sensation in his right hand, but the loss has not been complete.

Twenty-second day.—He was seized with a violent shivering fit this morning, about eleven o'clock, which lasted half an hour, and was followed by a profuse perspiration. His bowels have been opened; no appetite; pulse 92, full and jerking. His head was very painful during the night.

Twenty-fourth day.—Has had no more shivering; the right side of the head and face are considerably swollen, and the eyelid much inflamed. He has a good deal of pain, and great tenderness on pressure. There is also great want of power and sensation in the right arm. Ordered five grains of sesqui-carbonate of ammonia in acetate of ammonia, jalap, and half a grain of acetate of morphia, every night.

Twenty-seventh day.—Had a violent fit of shivering in the afternoon, followed by perspiration; his bowels have not been opened since yesterday. Head very painful, but not quite so much swollen. His right hand still continues partially paralysed. Wine, six ounces. For the next few days the symptoms varied little, and need no description.

June 1st (thirty-third day).—He is not so well to-day, and he has passed a very restless night; he has more pain in the head; pulse 120; tongue dry and

furred; he passes his motions and urine unconsciously. He had two fits resembling epilepsy in the evening.

Thirty-fourth day.—He had two more fits this morning. His left hand is now almost paralysed, and there is partial loss of sensation in the left leg. On protruding his tongue it is thrust to the left side. The pupils are dilated and immovable; tongue dry and brown; pulse 170, and very feeble. Mr. Hilton passed a director into the wound, and made an incision about two inches and a half in length, to expose the denuded parietal bone. On examination, the bone was dead, and, as the patient had now partial paralysis in his left side, Mr. Hilton thought it right to remove a portion of the bone. The operation was performed by means of the trephine, and the dura mater exposed; this was bulging into the hole made by the instrument, but the pulsations of the brain were not strong under it. Mr. Hilton made an opening through the membrane, but no pus was found. An external abscess was also opened upon the scalp behind the right temporal.

Nine p.m.—The man appears decidedly relieved by the operation; his left hand has partially recovered its power; pulse 90; skin cool.

Thirty-fifth day.—He had two fits during the night, in which there was convulsive movement of all the limbs, and the face drawn to the right side. The pupils are active; the left hand has almost recovered its power, but the right continues the same; there is considerable discharge from the wound.

Thirty-sixth day.—He slept badly, and had two or three slight fits during the night; pulse 120, and more feeble; tongue brown and dry; teeth covered with sordes.

Thirty-seventh day.—He has had two or three slight fits since yesterday. The wound continues to discharge; he appears to be gradually sinking; pulse 112, and very feeble.

He died this morning at nine, thirty-eight days after admission.

The examination after death showed the existence of sero-purulent effusion under the arachnoid, extravasation of blood and a small abscess in the substance of the brain under the seat of injury, pus in the longitudinal sinus and purulent deposits in the lungs, and other injuries sufficient to account for death, together with evidences of old-standing disease, as adhesions of the cerebral membranes, trichina spiralis in the muscles, &c.; but we pass over these to notice the state of the abdomen, and particularly of the liver. No evidence of recent inflammation was observed in the abdomen, either in the form of serous effusion or of adhesions; but the cæcum and ascending colon, a small portion of the transverse colon, and the portion of duodenum seen between the colon and liver, were all of a dark leaden hue, and the adjoining peritoneum, extending on to the abdominal parietes, were also of the same colour, but not in any way decomposed. This appeared to be the result of ecchymosis, or sub-serous effusion of blood, or possibly of the staining effect of the blood which escaped from the lacerated liver at the time of the accident. Some parts of this dark surface were mottled with small, black, pigment-like spots, and here and there were seen some small, shriveled, leechbite-like looking clots of blood adhering to the free surface of this portion of the peritoneum. The exposed and dark portion of the duodenum presented at its most convex part an attenuated appearance, bounded by two defined lines of its muscular fibre, and the peritoneum over it was slightly flocculent in appearance (not smooth, even, and shining, like the surrounding peritoneum); it seemed as if the blow had produced a forcible separation of the circular muscular fibres, and probably a slight tearing of the peritoneum covering this part, and which, if so, had become repaired; but the muscular fibres had not readjusted themselves. The mucous membrane corresponding

to this injury had a well-defined, unhealthy appearance, the surface spread out interrupting the continuity of two of the valvulæ conniventes. Upon examining this portion of the duodenum by transmitted light, it was distinctly recognised as much thinner than the structure of the surrounding portion of the same intestine.—Liver : The minute structure of the liver did not present anything pathological (no secondary abscess), but there was complete evidence of the right lobe of the organ over the duodenum having been torn or broken on its convex surface, the tear extending from the acute margin near the fundus of the gall-bladder obliquely backwards towards the left side, to the length of about three inches ; a part of this was adherent to the diaphragm by recent but firm adhesions. At that part of the laceration nearest the acute margin the edges of the wound were separated from each other to the extent of about three quarters of an inch, and not upon the same level ; this separation gradually diminished until it became a mere crack or fissure, losing itself in the substance of the liver. In the gap of the broadest fissure an insular portion of liver structure seemed to have been detached from the surrounding parts at the time of the injury, and to have remained, forming a rounded and abrupt elevation detached from the neighbouring textures except at its base, where it rested upon the subjacent liver structure. The lacerated surface was closed in and covered over by recent false membrane, but the rough edge of the laceration separating it from the smooth convex surface of the liver was very strongly and satisfactorily marked. Kidneys large and coarse ; there appeared to have been some inflammatory condition of the pelves, as these parts contained some muco-purulent fluid.

ART. 103.—*Case of Strangulation of the Jejunum released by gastrotomy.*
By Dr. RIDGE.

(Pamphlet, 1854.)

All cases of this kind are of great value ; but this case is particularly valuable, from the clearness with which it enables the reader to see the ground upon which the diagnosis was established, and the operation undertaken. Dr. Ridge writes :

CASE.—On the 11th of August last, I was summoned at night, by Mr. John Chapman, of Norwood, to a young gentleman suffering under the most urgent symptoms of obstructed intestine. It appeared that he had not been the subject of any injury to the abdomen, nor of any marked inflammation within its cavity ; but it was ascertained from his father after his death, that he was always liable to sickness, with constipation and abdominal distress, which had hitherto subsided under complete abstinence from food and rest, without the administration of medicine, so that it was at first thought he was simply suffering from one of his usual attacks. These facts are worthy of record as helps to the recognition of a congenital lesion ; being referrible probably to partial descents of intestine through an opening which was found in the mesentery, and spontaneous reductions, promoted by recumbency, the diminution of fulness of the stomach and bowels and of the vessels of the structures concerned, and other influences ; they cannot, however, be considered pathognomonic of this peculiar defect, of which I may at once state that I do not at present know, and cannot easily conceive any positive diagnostic signs. Concurrent with these accessions, and doubtless in some measure dependent upon them, was a general delicacy of health, which in other respects had been undisturbed, except by a tendency to headaches the last few years.

His frame was slight, but his stature was not disproportioned to his age; and a remarkable wasting and flabbiness exhibited on my visit had taken place to a significant degree since the commencement of the recent illness. For the particulars of this severe manifestation, and its treatment during the first four days, I am indebted to Mr. Mirian Hill, a very intelligent pupil of Guy's Hospital, at whose lodgings in Blackfriars the patient was resident at the period of the invasion, and where he was attended by Mr. Hutchinson of New Bridge Street, before his removal home, whither he was followed by this excellent friend, who continued to watch over and wait upon him with unremitting and most devoted attention.

E. N., a lad about fourteen years old, whilst staying in London shortly after leaving school, was attacked suddenly with a violent pain in the abdomen before retiring to rest, on Saturday, the 6th of August. On that morning he had been much over-heated by running after an omnibus, and afterwards exposed for several hours on its roof. The bowels had for some days been inactive, but otherwise he had enjoyed his usual health up to the moment of seizure. During the night the pain increased, and was relieved by a mustard poultice, after which he slept a few hours.

Sunday morning.—The pain had returned severely. Vomiting, which took place once or twice in the night, had become frequent. The matters cast up were mixed with a considerable quantity of bile; the countenance was anxious; the cheeks were flushed. He was very restless during the cessations of retching; the pulse was full and strong. He complained of pain, beginning on the left of and a little below the umbilicus, and extending thence towards the right side. A dose of castor oil was given, and shortly afterwards rejected. About one o'clock, the vomiting having ceased, and the pain having somewhat subsided, an aperient draught, containing a scruple of carbonate of magnesia and two drachms of sulphate of magnesia, in dill-water, with some syrup of ginger, was taken, and after a short time was cast up, and the vomiting increased considerably; the pain, too, if possible, became more violent. Flannels, steeped in hot water, and applied to the abdomen, afforded some relief.

Sunday evening.—No further attempts had been made to relieve the bowels. On examination of the abdominal surface, nothing abnormal was detected. Pressure upon the abdomen appeared to diminish the pain; the hot fomentations were constantly renewed, and a small quantity of laudanum was sprinkled over them. During the night vomiting was frequent. The ejected fluids were highly tinged with bile, but free from faecal taint. He obtained a few brief intervals of sleep.

Monday morning.—The pain and sickness remained as before. The pulse was thready and weak; the eyes were sunken, and their areolæ darkened. The features generally had a shrunk appearance. No tumour or appreciable source of impediment could be discovered in the abdomen. Three grains of calomel were ordered to be taken every three hours, and the fomentations as before.

Monday evening.—An injection of gruel, with castor oil, had been twice administered, and retained; the calomel was discontinued. In the night he was restless and feverish, but the other symptoms were rather diminished. Another injection was thrown up and retained.

Tuesday morning.—An enema had again been applied, with the addition of some black draught to the gruel. A short time after its repetition at noon, a motion was obtained. Subsequently several evacuations took place, and most offensive matter was passed, together with apple-pips, plum-kernels, and other indigestible substances.

Tuesday evening.—The vomiting had abated, and for a part of the day had ceased. He looked better: the pulse was weak, and at times slightly intermittent. At night he wandered a little, and a draught containing morphia was given; but the excitement increased to such an extent, as to require the efforts of the attendants to prevent his getting out of bed, and rushing about the room.

Wednesday morning.—A little tea had remained on the stomach; but the vomiting recurred at intervals; change of posture seemed to bring it on. He was very weak. In the course of the day he was removed, with every precaution, to his parents' home at Norwood, and bore the journey without any attack of retching. This, however, came on at once on his arrival, and symptoms of prostration became more manifest.

He was now placed under the care of Mr. John Chapman, who endeavoured to allay the sickness by an effervescing mixture, containing hydrocyanic acid and the tincture of hyoscyamus; and in the evening, and at different periods of the following day, administered pills of colocynth with hyoscyamus, and draughts of the carbonate with small quantities of the sulphate of magnesia, with tincture of henbane, and the compound spirit of ammonia.

When I saw him at midnight, on the sixth day of the attack, or early in the morning of that day week on the night of which he was suddenly seized. I found his countenance and manner expressive of the deepest distress. His hands and fore-arms were livid red and cold, and were cast about him in despair. His neck, exposed by constant and painful jactitation, was dusky, chilled, and damp. The pulse was very small, feeble and quick. He had just vomited a scanty bilious fluid, which was without any feculent trace whatever; and the last injection returned exhibited no stercoraceous character. The tongue was morbidly red. The abdomen was depressed at its lower half. There was no hernial protrusion, and no prominence perceptible at any spot except to a slight degree just above and to the left of the umbilicus, where much tenderness existed, and whence a fulness extended over the epigastrium; and this was not considerable, but disproportioned to the contracted appearance displayed below a division thus created. Over this upper part of the cavity, there was more, though not great, resonance on percussion, which elsewhere did not afford a tympanitic sound. A teaspoonful of beef-tea and brandy, by which attempts had previously been made to support him, was given, and at once rejected. It seemed that the entire alimentary track was thus kept empty, the obstruction being complete. The steady advance of the symptoms related, with the exception of some relief attending the evacuation of the colon by the enemata, which had since returned unmixed; the free discharge of bile from the stomach, and of all ingesta swallowed; and the absence throughout of the least stercoraceous vomiting, though the bowels were not soon relieved of their old and retained supplies, confirmed my impression that nothing could pass through the strictured part in either direction. The retraction of the abdominal walls in the course of the colon, and in the hypogastric region, led me to reject the large and the lower portion of the small intestines, and to conclude, from the moderate character of the previous symptoms (all of which augment usually in rapidity and severity as the restriction approaches the pylorus itself), that it could not be the duodenum, whose bile was rejected abundantly from its entrance at least, but some part of the jejunum that was obstructed by a cause operating from without the tube, when pain, corresponding more or less in locality, is in general sudden and greatest, and continues or increases with strangulation.

The urine was scanty; and I regarded this, not as diagnostic of an organic lesion, or of its situation, but as corroborative evidence of the extent to

which the system had been drained by the urgent vomiting, and the obviously contracted state of by far the greater part of the canal—effects by which the supplies become arrested most when the impediment is nearest the stomach, and, above all, complete. I am not anxious, however, to lay undue stress upon phenomena, present and absent, which induced me to believe that the obstruction was at the jejunum, and not inflammatory or partial, but mechanical and impassable; because such an analysis of a mental process, unless perfect and closely followed, is apt to lead to deception and error; and I have maintained that the grounds of exact diagnosis lie in a just appreciation of all the antecedents that can be obtained, and the entire assemblage of symptoms presented by the individual case, on which the practitioner must exert his personal experience and sagacity.

The only question concerning medicinal agents that could be entertained when I first saw the patient, was the propriety of administering opium, strongly indicated by the extreme irritability of the canal above the obstruction. But looking to the state of inanition which was present, the delay of the circulation at the capillaries, and the diminished power of an ill-supplied heart that seemed already to threaten failure, and the little aid to be anticipated beyond a partial diminution of suffering under evidence of external occlusion, it seemed unsafe to wait the effects of this medicine, when manual interference was likely to prove the ultimate and only source of relief. It was considered carefully whether we might not give it till the morning, or rather the noon of the day which had just begun; and, in the absence of any amendment, then recommend gastrotomy. I could not undertake the responsibility of delay, when twelve hours might terminate life, or place the patient beyond surgical assistance; and the hope seemed so well founded of releasing the intestine by operation, and time only afforded for the remedy which supplied the best chance of saving existence, that, under the conviction that pain and vomiting would readily cease if the passage were set free, and that by nutrition and stimulation thus permitted, the powers might regain their integrity, I deemed it right and just to conclude that the abdomen should be opened as soon as possible, and that the surgeon who had performed this operation with most success should be consulted regarding it. In these opinions Mr. Chapman and Mr. Hill coincided; and within little more than half an hour from my arrival, the messenger was sent to Mr. Hilton, and brought him in time to operate at 2 a.m. After making his observations, and weighing with his usual caution and judgment the facts and arguments laid before him, and hesitating also somewhat regarding the exhibition of opium, Mr. Hilton fully concurred in the diagnosis formed, and in the propriety of the operative procedure for the relief of the symptoms. The amount of suffering induced, and the appalling characters presented, removed all objections on the part of the patient and his relatives to an exploration in itself alarming, and involving a new cause of shock and inflammation. The room was made warm by the aid of a large fire, the patient was brought to the side of his bed, and the operation was soon completed. Immediately afterwards he expressed himself as suffering less. Some beef-tea and brandy were swallowed, and remained down without producing any inconvenience; and thus a very striking contrast was afforded to his condition, previous to the release of several inches of the jejunum from the mesenteric opening by which it was more or less strangulated. Fluid aliment of this kind was repeated at short intervals, without causing sickness or nausea. A grain of opium was given when he was restored to an appropriate position in his bed, with an aspect remarkably improved; and another was ordered after three hours. He continued to take nourishment in comfort, and asked for some coffee the family were

taking for breakfast, and was allowed a cup containing an equal quantity of milk. Arrow-root and egg beat up with wine were subsequently given; but symptoms of exhaustion returned in the afternoon, in spite of persevering attempts to sustain him, and he sank gradually at ten o'clock in the evening, after remaining free, to the surprise and satisfaction of his friends, from all the characteristic local and general distress which had undermined his strength so fatally. Some restlessness continued for a short time after the operation, and he occasionally expressed a desire to pass a motion or urine, but no evacuation of either kind is said to have occurred—circumstances easy of explanation by the previous comparatively empty conditions of the alimentary canal, and of the circulatory system, and the impaired functions of digestion and absorption.

No *post-mortem* examination was obtained, but the following extract from notes of the operation, which were taken by Mr. Hilton at the time, will supply the main part of the information which could have been obtained in this way:

“An incision was made in the median line about three inches long, beginning a little above and to the left of the umbilicus, and extending it downwards. The linea alba was exposed; this was divided vertically, first close to the umbilicus, until the peritoneum was brought into view. A portion of this membrane was pinched up by the finger and thumb, and opened with a scalpel. The finger being introduced into the abdomen served as a director to complete the extension of the opening corresponding with the incision into the skin. The transverse colon, with the great omentum attached to it, were now seen. The colon at near the upper angle of the wound was small; the omentum was free from fat, and spread completely over the small intestines. Both colon and omentum were turgid with blood-vessels loaded with blood, some miliary tubercles were visible in the omentum, and similar tubercles were subsequently observed in the walls of the small intestines. On attempting to draw upwards the omentum, some resistance was felt; and I passed my finger under its left edge, and found a band or cord of membrane, about as thick as a crow's quill extending from the omentum to the spine, amongst the contracted small intestines, and fixed to the left side of the root of the mesentery. This band was divided, after some little trouble, by a sawing motion across it with the finger nail, between one and two inches from its posterior fixed point; and the other end, or that attached to the omentum, was drawn forwards and brought to the external wound. It did not bleed. As this band did not appear to girt very tightly the intestines, and as the symptoms were obviously connected with, or produced by, complete obstruction of some kind, I concluded it could not be the true cause of the urgent symptoms. I therefore passed my finger downwards to examine the obturator foramina; and finding them both free, I then directed my finger upwards towards the beginning of the jejunum on the left side of the median line, and found that immediately after this portion of the small intestines becomes comparatively free from the spine, where it is continuous with the duodenum, it had passed towards the right side of the abdomen through an abnormal hole in the mesentery, in which position it was tightly retained. I withdrew this portion of intestine from

its incarcerated position by steady traction upon it towards the left side of the abdomen, and brought it forwards into view. It was about six or eight inches long, distended, dark-coloured, highly congested with blood, but not gangrenous. The hole through which it had passed admitted the ends of fingers easily.

“Sufficient cause for the urgent symptoms having been now ascertained, and remedied as far as possible, the edges of the external wound were adapted by sutures, and a pad of lint supported by plasters across the abdomen. Scarcely any blood had been lost by the operation, and no great difficulty was experienced in this instance in keeping the intestines within the abdomen, as all the intestines below the obstruction, which was near to the stomach, were empty and contracted; but their walls were dark and congested with blood, and, in that respect, their appearance was peculiar and unusual. I suppose this peculiarity is to be explained by the hole in the mesentery being occupied to distension by the incarcerated intestine, and producing pressure upon the superior mesenteric vein, which traverses the root of the mesentery before going over the duodenum, close to the abnormal hole through it, and so led to congestion in the branches of the veins proceeding from the jejunum and ileum; and I may add, as the result of several *post-mortem* operations, that the jejunum quits the duodenum on the left side of the spine about one inch and a half above, and to the left side of, the umbilicus of an ordinary-sized abdomen.”

ART. 104.—*On an improved plan of treating Hæmorrhoidal Tumours.*
By Mr. LEE, Assistant-Surgeon to King's College Hospital.

(*Lancet*, Feb. 18, 1854.)

This paper commences by a reference to the plan of applying the strong nitric acid to certain kinds of hæmorrhoids, which had been introduced by Dr. Houston, of Dublin. Shortly after Dr. Houston's paper had appeared in 1843, he had tried the effect of this plan of treatment in other kinds of hæmorrhoids, and had published the results of his experience in 1848. This mode of treatment had now become very general, and the danger at present was lest a really useful remedy should be brought into disrepute by being indiscriminately applied. The object of Mr. Lee's paper was therefore to distinguish the cases in which this mode of treatment was applicable from those in which it was not, and to describe the plan which he had adopted when surgical interference was deemed necessary in the latter class of cases. The instances to which the application of nitric acid was adapted were those where hæmorrhage constituted the prominent symptoms, and those in which a protusion of unaltered mucous membrane had taken place. The cases in which the application of the strong nitric acid was not sufficient were those in which the submucous tissue had become thickened by inflammatory deposit, or in which the mucous membrane had become hardened and altered in structure from long exposure. In the latter class of cases, when any operation was called for, the plan recommended was as follows:—The patient

was first directed to protrude the affected parts. The hæmorrhoid or a portion of the relaxed mucous membrane, was then embraced by a kind of broad forceps, called a "clamp," and the part which projected beyond the blades of the clamp were cut off with a sharp knife curved upon the flat. When this was done, the clamp still embracing the base of the tumour prevented the cut surface from either retracting or bleeding. The operation was then completed by touching the cut surface either with the nitric acid or with the actual cautery. The clamp is then removed, and the parts returned to their natural position. In the cases operated upon no trouble from bleeding had ever been experienced after the application of the cautery, which gave little pain, and was for this operation to be preferred to the use of the nitric acid. In cases where the parts to be removed could not be sufficiently protruded, the operation was very satisfactorily performed by means of a rectum speculum. The instrument has a slide upon one side, which may be removed. This is made to fit accurately into grooves, so that by being withdrawn to a greater or less extent, a corresponding aperture is left in the side of the instrument. When the speculum is introduced the slide is partially withdrawn, and the instrument is moved about until the tumour or portion of mucous membrane requisite projects through the aperture. The slide is then closed upon the point to be removed, which is thus firmly held between the sides and the rest of the instrument; the portion of tumour or of mucous membrane which projects into the speculum is then removed with a long narrow knife, and the cut surface is touched with the actual cautery as in the first instance. It is not requisite or even desirable to destroy any depth of surface with the cautery. The object in applying it is simply to prevent hæmorrhage, which it effectually does. The advantages of this plan of operating in cases where the application of the strong nitric acid was not sufficient, were:—

1. That it is less powerful than any other plan equally efficacious.
2. That it is safer than the common operation now in use.
3. That it requires less confinement, and the patient is sooner convalescent than after the application of the ligature in the ordinary way.

ART. 105.—*Cause and treatment of Prolapsus of the Rectum.*

By M. DUCHAUSAY.

(*Archiv. Gén. de Méd.*, Sept., 1853.)

According to M. Duchausay the cause of this complaint is loss of power in the sphincter ani muscle, and the operations by incision and cautery act by stimulating the contractibility of the muscle, and not by the physical shrinking which eventually takes place in the new tissues which are formed in order to repair the wounds caused by the operation. The immediate relief to the prolapsus, which sometimes follows the use of the knife or the cautery, is considered to be a proof of this position. M. Duchausay, therefore, recommends a very slight application of the cautery, or the endermic application of strychnia in the neighbourhood, as a likely means of rousing the dormant irritability of the muscle. He also relates a case which is very deserving of attention.

CASE.—A girl, æt. 15, under the care of M. Guersent, at the Hôpital des Enfants, was the subject of M. Duchausay's experiment. She had had severe prolapsus for four years; the bowel coming down as much as four inches at each evacuation. For a month after her admission she was treated by laxatives, and relieved—for the bowel did not protrude to more than half its usual extent. Strychnia was then employed endermically as near the anus as practicable—on the first day one sixteenth of a grain, on the second one third, on the fourth one third, on the fifth one half, and on the sixth (the last application) half a grain. The result was, that on the day after the first application, there was no evacuation; on the two days following, the bowels acted once, and the rectum protruded very slightly; and during the next thirteen days, the bowels acted several times without any protrusion at all.

ART. 106.—*The treatment of Anal Fistulæ by iodine injections.*
By M. BOINET.

(Gaz. Méd. de Paris, Dec. 24 and 31, 1853.)

M. Boinet relates several cases for the purpose of showing the value of this kind of treatment—a treatment which acts by the adhesive inflammation which it excites, and which was first recommended and practised by Mr. Charles Clay—and from these cases he considers himself entitled to conclude that this treatment possesses many advantages over the one commonly in use. It is less inconvenient and less dangerous. It does not necessitate a long confinement to bed and daily dressings. It is comparatively free from pain, and it is easy to carry into effect. It is applicable in all cases, whatever the form of the sinus or sinuses, and particularly in those cases in which the knife cannot be used without difficulty or danger. It does not prejudice the position of the patient, even where it does him no good. For these reasons, M. Boinet concludes that it ought always to be tried before having recourse to the knife.

The preliminary precautions are similar to those which are taken in the ordinary operation, viz., to empty the bowel by injections or by other means, and so to regulate the diet that the patient will not require to have a stool until the new adhesions have had time to form. The ordinary injection is composed of half a drachm of iodine, fifteen grains of iodide of potassium, and two ounces of water, or thereabouts; a stronger injection, of a drachm of iodine, fifteen grains of iodide of potassium, and about an ounce and a quarter of water. One or two teaspoonfuls of either of these solutions is injected by means of a glass syringe, with a nobbed canula, a finger having been previously placed upon the opening into the rectum so as to confine the injection to the bowel (if such opening exist), while at the same time precautions are taken to prevent it from flowing away from the outer opening, for at least five or six minutes. This operation is repeated every five or six days, or at shorter or longer intervals, according to circumstances. Sometimes a single operation has sufficed for the cure.

ART. 106*.—*Treatment of Anal Fistulæ by injections of diluted tincture of Rhatany.* By M. ROTTÉE.

(*Jour. des Connaiss. Méd.-Chir.*, Sept., 1853; *Gaz. Hebdom.*, Nov. 11, 1853.)

M. Rottée's plan is to give an emollient enema twice a day, so as to clear out the bowel effectually, and afterwards to inject into the sinus a small quantity of a mixture, consisting of one part of the alcoholic tincture of rhatany to sixteen parts of rose-water, increasing the strength of the mixture after a time, or using it from the first of double this strength in the case of persons who are of a lax lymphatic constitution. He relates three cases, but so cursorily, that it is impossible to form an opinion respecting them. It appears, however, that he had to persevere in his efforts for several weeks before a cure was effected; and this fact is enough to do away with the necessity of inquiring more particularly after the cases.

ART. 107.—*A case of Hernia of the Bladder into the Scrotum.*
By MR. PILCHER.

(*Transactions of the Pathological Society*, vol. iv. 1853.)

Mr. Pilcher remarks upon the similarity between this case and one which fell under the notice of Mr. Keats, as quoted in Mr. Coulson's work, on 'Diseases of the Urinary Organs.' He has been unable to collect any statistical account of the frequency of these herniæ, most authors only mentioning them as of rare occurrence.

CASE.—N. M., æt. 80, a footman, at the age of 16, suffered from a hernial protrusion in the left groin. Not finding himself inconvenienced, he neglected it, and never had a truss applied. He enjoyed excellent health up to ten years since, when the hernia suddenly increased, extending into the scrotum. At this time a swelling appeared in the right groin also; he then applied to a medical man, who told him that his bladder had come down in the rupture on the right side. Eight years ago the tumours having both increased to a great extent, causing him much inconvenience from their size, he applied at the Middlesex Hospital, but he was told he could not be benefited by treatment. His general health was not affected; the bowels acted freely, and he soon learned, by leaning with his head against a wall, straining and pressing the right scrotum with his hands, to evacuate his urine. He has no stricture, and never suffered from retention. The symptoms remained the same up to the present time, excepting that the swelling continued to increase; that on the right diminishing somewhat after passing water, which flowed from him in a thin stream, in small quantities, and frequently. He always had to rise early in the morning to void his urine. On the 4th of this month (October, 1852), on getting out of bed as usual, he found himself unable to evacuate the contents of the bladder; he took some gin-and-water, but still continued unable to pass his urine. Fearing the expense, he did not apply for medical assistance until the 7th instant: on the 8th, the usual medicines having failed to relieve the retention, a gum-elastic catheter was passed by Mr. Grange, and a small quantity of water removed, after which he expressed himself relieved.

On the following day (the 9th) he was seen by Mr. W. Bryant; the cath-

ter was again introduced, and more than two quarts of urine was drawn off. There was considerable difficulty in introducing the instrument, especially from the fact that all the ordinary gum catheters were about four inches too short. He had suffered no more inconvenience from the distension till the 11th, when the bladder again became much enlarged. Mr. Lane was now called in consultation. He with difficulty succeeded in drawing off, with a gum catheter, a considerable quantity of urine. The patient's health now appeared to be suffering from the shock on the system of one so advanced in years; his appetite failed and his spirits sank.

On the 14th, Mr. Pilcher accompanied Mr. Lane, who was again requested to see him. The scrotum presented a swelling of unusual magnitude (measuring nearly 12 inches from side to side), the skin being tense, and the penis completely retracted, the only indication of its existence being a depression like that of the umbilicus. The swelling on the left side presented an irregular appearance, and measured 14 inches in circumference; the various convolutions of the contained intestines, as well as their peristaltic movements, were distinctly visible through the attenuated coverings of the hernia. On the right side was seen also a considerable swelling, somewhat less than the left, of a more regular pyriform shape, looking very tense, feeling very smooth on its surface, distinctly fluctuating. On application of the taxis, a considerable portion of the contents of the left scrotum could be returned into the abdominal cavity; not so the right, for on the least pressure the patient complained of pain, and desired to pass his water. The testicle could be distinctly seen, and felt as a rounded and moveable projection on the lower and fore part of the tumour. Mr. Lane this time attempted to introduce a longer and somewhat larger gum catheter; but from its want of pliability, the introduction could not be accomplished. The shorter and more pliable instrument before in use was then tried, and a large quantity of dark, extremely offensive urine, with some admixture of blood, was drawn off. A plug was put into the catheter, which was left in the bladder. During the afternoon the patient became worse; by the evening he had become delirious. He had pulled the catheter out of the bladder. Coma soon set in, and he sank on Saturday the 16th.

The post-mortem examination was performed by Mr. Grange and Mr. Pilcher on Monday. Decomposition had somewhat advanced. The swelling of the scrotum was more flaccid than during life. Time and other circumstances prevented a careful or minute dissection, the examination being conducted by candle-light in a small room. The prostate was much enlarged, and firmly held down by its ligaments in its proper position in the pelvic cavity. The structure of the bladder appeared much altered. The protruded portion consisted of about two-thirds of the viscus, capable of containing about 50 ounces of water. At the situation of the inguinal canal, there was found an hour-glass contraction of the organ, the communication between the two portions being about one inch in diameter. The pelvic portion was capable of containing about 20 ounces of fluid, and was displaced forwards and to the right side. Both the ureters opened into this part. The urethral opening at the neck of the bladder was much dilated, being large enough easily to admit the finger. The epigastric artery was situated at the inner side of the neck of the hernia. Mr. Pilcher concluded from this, that it must have been an old oblique inguinal hernia, in which the internal ring had been dragged down to the external by the constant weight. The protruded portion of the viscus was firmly adherent to its sac.

ART. 108.—*Clinical remarks upon Hydrocele.* By M. VELPEAU.

(*Gaz. des Hôpitaux*, Feb. 11, 1854; and *Medical Times and Gaz.*, March 4, 1854.)

The sub-divisions of hydrocele, as established by modern research, have been recently illustrated by M. Velpeau. A female in La Salle Sainte Catherine was the subject of hydrocele in an old hernial sac. The tumour was first evacuated by puncture; but the fluid having speedily re-accumulated, an incision was made, which exposed a piece of omentum constituting the hernia. The patient left the hospital cured.

A man in La Salle Sainte Vierge had undergone, six weeks ago, an operation in another hospital for hydrocele of the tunica vaginalis. Severe inflammation, attended by swelling, ensued, and for three weeks poultices were constantly applied. As the tumefaction was subsiding, the patient quitted the hospital of his own accord; but he soon afterwards applied for admission into La Charité, where M. Velpeau found, upon examination, that behind the testicle, at the entrance of the spermatic chord, there were two small fluctuating tumours. He punctured them both, and there issued a small quantity of perfectly transparent fluid. The cure was permanent. It is probable that this patient had both hydrocele of the tunica vaginalis, and two cysts at the extremity of the spermatic chord, which had been unobserved until the former had been removed by operation.

The epididymis is often the seat of cysts, as has been pointed out and described by M. Gosselin. But hydrocele of the tunica vaginalis is by far the most common form, and the fluid may be contained either in one sac, or in several smaller compartments, formed by organised bands of lymph passing between the opposite surfaces of the tunica vaginalis. M. Velpeau relates a case in which the testicle was adherent to the front of the sac, and had been punctured twice by the trochar.

The spermatic hydrocele contains a turbid milky fluid, in which, upon microscopic examination, spermatozoa are found. The encysted hydrocele of the chord contains a limpid fluid as clear as rock-water.

The colour of the fluid in the tunica vaginalis is usually pale-straw or citron, but it may be of deeper hue. M. Velpeau relates a case in which, from a tumour punctured every two years, there issued a green-coloured serum, containing cholesterine. He believes that it is most commonly the colouring matter of the blood, which mixes with the serum, and refers to the frequency with which a blow converts a hydrocele into a hæmatocele; but he confesses that this transformation may ensue without any appreciable cause. The hæmatocele may become a hydrocele by the absorption of the colouring matter of the blood; and a knowledge of the different phenomena which occur during this process, explains the variety of diagnosis often made at different epochs upon the same individual, of which M. Velpeau relates a striking instance. A hydrocele of the tunica vaginalis rarely disappears spontaneously. It happens, however, when the tunica bursts, and the fluid becomes infiltrated into the areolar tissue of the

scrotum. In other cases the disappearance cannot be thus explained. M. Velpeau relates two cases in which, having examined the tumours attentively, having ascertained both their transparency and fluctuation, he fixed the day for operation, when, upon the patients presenting themselves, there was no trace of the disease.

The different modes of treatment, incision, cauterisation, seton, &c., are abandoned, and puncture, followed by injection, is employed almost exclusively in France. Cures are obtained, whatever may be the irritating liquid employed; but the injection by iodine possesses an incontestable advantage, because it causes no inflammation nor sloughing, should it escape into the areolar tissue of the scrotum; and because, from the investigations of M. Hutin, it is now ascertained that cure is obtained without obliteration of the sac of the tunica vaginalis.

ART. 109.—*On the local application of Lunar Caustic to the internal surface of the Tunica vaginalis for the radical cure of Hydrocele.* By Dr. PARKER, Professor of Surgery in the College of Physicians and Surgeons, New York.

(*New York Journal of Medicine*, Jan., 1854.)

Dr. Parker thinks that this plan of treatment produces less inflammatory excitement, and is more successful in its results, than any which has yet been tried; and he relates four cases in illustration, of which the subjoined is one.

CASE.—Mr. J., æt. 60, an Irishman, a waiter by occupation, unmarried, had always enjoyed good health until April last, when he discovered an enlargement of the left scrotum. It had never previously been the seat of any difficulty. The tumour increased so rapidly, that within three weeks it had become a great annoyance, and prevented him, simply from its size, from continuing at his business. At this time I first saw him, and such had been the rapidity of the growth of the tumour, that it had been mistaken for hernia, and he was wearing a truss. On examination, however, its true character, that of hydrocele, was made out without difficulty; a trocar and canula were accordingly introduced, and a large quantity of water withdrawn, and the patient dismissed. In about three weeks he again applied for relief, and I proceeded to operate for his radical cure in the following manner: after drawing off the fluid contents of the tumour in the ordinary way, I introduced through the canula a common probe, the end of which was coated, for half an inch or more, with nitrate of silver. This extremity, thus charged with the caustic, was carried lightly over the serous surface of the tunica vaginalis, in various directions, and then removed. The patient complained of some pain during this part of the operation. He was directed to keep quiet for the pain and swelling consequent on the application of the caustic, and applying cooling lotions, should the inflammation be at all severe. He returned home, but as he suffered but little pain, and the swelling was slight, and as his services could not well be spared, he continued about his business without any interruption. The pain lasted three or four days, when it ceased altogether, leaving the scrotum of its natural size. In this condition it has since remained, with no symptoms of a return of the hydrocele, the cure having been complete."

ART. 110.—*Case in which a Gutta-percha Bougie was broken off in the Urethra.* By Dr. J. MASON WARREN.

(*American Quarterly Journal of Medical Sciences*, Jan., 1853.)

Dr. Warren relates a case, in the 'Records of the Boston Society for Medical Improvement,' in which this accident occurred, and much difficulty was experienced in extracting the fragment. This is not the first case of the kind (v. 'Abstract,' vol. xvi, p. 203), and we therefore call attention to the fact for the purpose of showing the impropriety of employing bougies made of this fragile material.

ART. 111.—*The cases in which Urethrotomy may be advantageously employed.* By Mr. ERICHSEN, Surgeon to the University College Hospital.

(*Art and Science of Surgery*, 8vo.)

These cases are thus described :

"1. In very old dense cartilaginous strictures, often of traumatic origin, which admit an instrument with great difficulty, and cannot be dilated beyond a certain point, owing to the conversion of the urethral structures into a kind of dense fibrous, almost cicatrisial tissue, that neither admits of expansion nor of absorption by the pressure of instruments, and in which a considerable extent, half an inch or more, of the urethra is involved.

"2. The same kind of stricture complicated with fistulæ in the perinæum or scrotum, with perhaps considerable plastic infiltration of these parts.

"3. Very tight stricture, accompanied by excessive sensibility of the urethra, in which each introduction of the instrument is attended by intense suffering, spasmodic movements of the limbs, and rigors, so that the patient cannot be induced to submit to a proper course of bougies.

"4. Very elastic, though perhaps narrow strictures, that can be dilated readily enough, even up to the admission of full-sized instruments, but which, when the treatment is discontinued, immediately begin to contract again, so that the patient is never out of the surgeon's hands, and sees no prospect of cure."

ART. 112.—*A remarkable case of Spontaneous Recovery after a very severe injury of the Bladder.* By Dr. DUNSMORE, Surgeon to the Royal Infirmary, Edinburgh.

(*Edinb. Medical and Surgical Journal*, Jan. 1854.)

This case is another example of a most severe wound having been recovered from by the mere *vis medicatrix naturæ*, the patient having applied for no medical assistance until more than six months after the accident.

CASE.—William Howell, æt. 53, bookbinder, admitted 18th October, 1853. He states that he enjoyed excellent health till the commencement of

his present illness in September 1842. Having slipped while stepping from the Bass Rock into a fishing-boat, he fell backwards on the "thowl-pin," which entered the perinæum immediately at the posterior margin of right side of the anus. Although much hurt, he was able to raise himself and take his seat in the boat without acquainting his companions of the accident. Very little hæmorrhage occurred, and, although faint, he was still able, when the boat landed, to walk home, a distance of a quarter of a mile, without assistance. Severe febrile symptoms, however, soon appeared, and he was confined to bed for three weeks with inflammation "of the lower part of the bowels." After being confined for eight to ten days, a large abscess formed in the perinæum, and burst externally at the seat of injury, a quantity of dark fetid pus escaping, with great relief to his sufferings. Three days afterwards he observed, while at stool, that part of his urine escaped through the opening in the perinæum, and that air was mixed with the urine which passed along the urethra.

The discharge of pus and urine through the perineal wound continued when he emptied the bladder, till the following March (five months), when the opening ultimately closed. By this time he had recovered his general health, and was free from all suffering except after considerable exercise, when he had frequent calls to make water, accompanied with hot burning pains in the region of the bladder; at these times he observed that the urine was mixed with blood. A few weeks after this, and about six months from the date of the accident, he for the first time observed the stream of urine suddenly interrupted, as if by some body "plugging up the passage." This having occurred frequently, and being troubled at the same time with lancinating pains in the perinæum shooting along the penis, he consulted his medical attendant, who sent him to the Royal Infirmary. His bladder was examined by Mr. Syme, but no stone could then be detected. When he applied at the hospital his urine appears to have been free from blood, but to have deposited, after standing, a copious sediment of ropy mucus or pus. On several occasions he passed by the urethra one or two elongated friable bodies like splinters of wood, white, rough on the surface, and easily breaking down under the finger.

He continued in much the same state till about two and a half years before the period of his admission, when, being confined to bed for seven weeks with fracture of the tibia, he felt greatly relieved, being free from all pain, and able to pass his urine without any difficulty or uneasiness. On resuming his employment his former symptoms returned with great severity; he had frequent desire to empty the bladder, which was always accompanied with pain; the stream was frequently and completely obstructed, and the urine was mixed with pus and blood after the slightest exertion. About six months elapsed before he was sounded; a calculus was then detected; but having refused to submit to an operation, palliative treatment was had recourse to. His sufferings continued unabated, and lately became so much aggravated that he applied to Dr. Dunsmure to have the operation performed.

The operation was performed, and a stone, *having for a nucleus a portion of the drawers and trowsers which the patient had worn at the time of the accident*, was extracted. Recovery was uninterrupted and complete.

(C.) CONCERNING THE UPPER EXTREMITY.

ART. 113.—*Case of dislocation of the Humerus on the Dorsum of the Scapula.* By Mr. R. U. WEST, of Alford.

(*Association Medical Journal*, Jan. 6, 1854.)

Dislocations of the os humeri on the dorsum of the scapula are very rare; so much so, that Sir Astley Cooper, in his work on dislocations, says that there were only two such cases met with in Guy's Hospital during thirty-eight years. It would seem, therefore, that the accident can arise only from some peculiarity in the kind of violence which causes it, and not from the action of any particular muscles on the bone after it is thrown out of the glenoid cavity. The manner in which the accident was caused is not given in the two cases referred to by Sir Astley; but there are three other cases communicated to him by provincial practitioners, and published in his work, which seem to prove this; notwithstanding that one of the writers, Mr. Coley, of Bridgenorth, thinks that the effect is produced by the action of the latissimus dorsi and teres major on the bone. In fact, the very great frequency of the dislocation into the axilla, compared with that of the dislocation either backwards or forwards, must prove that the muscles invariably pull the arm downwards, when no other force gives a different direction to it. Surely, when the muscles are left to themselves, the pectoralis major would have its influence as well as the latissimus dorsi.

"CASE.—About three months ago, I met with a case of the dislocation backwards, and it occurred in a way which may serve to illustrate this point. My patient, a farmer, residing about a mile from this place, was standing alone in his yard, where some additions to his house were being erected. Four and twenty deal boards were piled crosswise over a pole, which was supported at each end by a triangle; and as Mr. — stood with his back towards one of these triangles it suddenly gave way; the pole dropped to the ground, the boards slid off the end of it, and the whole mass falling on him threw him on his face to the ground. The intersecting portion of the boards caught him on the back and held him down, while his head escaped from being crushed by being in the interval or interstice above; but the right shoulder, which was in the interval on one side, was on that very account severely injured, the elbow catching the ground, and the head of the humerus being thus driven directly backwards. On my arrival, about an hour after the accident, I found Mr. — suffering great pain both in the back and shoulder, and there was so much shortening of the upper arm, that before his coat was taken off I thought the humerus must be broken. But on stripping him, the nature of the case was at once evident, from the great shortening of the limb, a soft, yielding, thickened, fleshy mass under the acromion, and, plainly perceptible under the spine of the scapula, a hard round lump, which could be made to rotate by grasping the elbow. There were some ribs broken, and the patient was collapsed and faint, so that I had no difficulty in reducing the dislocation, which I effected by means of a couple of jack towels and the assistance of two men from the yard. Mr. — had scarcely any pain in the shoulder after the reduction, and recovered very rapidly from all the effects of his accident.

"This dislocation is easily detected and easily reduced, and the round lump on the dorsum of the scapula is very satisfactorily seen to disappear at the moment when the peculiar snap is heard, which announces the return of the head of the bone into its normal situation."

(D.) CONCERNING THE INFERIOR EXTREMITY.

ART. 114.—*On Sciatica, and its treatment by Croton oil.*

By Mr. HANCOCK, Surgeon to Charing Cross Hospital.

(*Lancet*, March 4 and 11, 1854.)

In Mr. Hancock's opinion, the cause most productive of sciatica is irritation of the nerve within the pelvis, either from loaded colon or cæcum, or from tumours formed within that cavity, and acting mechanically upon the nerve in that situation. A loaded colon appears to be the commonest cause, and this may be the reason why sciatica is most commonly seated in the left thigh. Rheumatism he believes to be quite an exceptional rather than a common cause.

The plan of treatment recommended is to thoroughly purge the patient with small doses of croton oil, combined with blue pill, henbane, and compound extract of colocynth, and at the same time to administer three-grain doses of quinine thrice daily. Local applications are spoken of as injurious rather than beneficial.

Mr. Hancock relates five cases as examples of several which had fallen under his notice, which cases yielded immediately to the treatment recommended, after having previously resisted the ordinary treatment for rheumatism. These cases are very important.

"CASE 1.—Mrs. W——, the wife of a clergyman residing in Essex, consulted me six years ago for sciatica in the right leg, of nearly two years' duration. Her sufferings were most intense, and she was worn almost to a skeleton by their duration and want of rest. She attributed the attack to cold caught by getting wet through, and had during the previous two years been treated accordingly by colchicum and calomel and opium internally, whilst locally she had been cupped, blistered, and counter-irritated by various applications, such as veratria, tartarised antimony, iodine and hydriodate of potash, and croton oil, but without deriving any benefit. For the last six months she had taken morphia to such an extent that she only found relief by doses of three grains each, taken at repeated intervals when the paroxysms of pain were urgent. Her tongue was much loaded, her breath offensive, and appetite bad; but she assured me she did not require purgative medicine, adding that she could not bear even the mildest form, she was so extremely delicate and it acted so violently. Upon carefully examining the large intestines, the cæcum and ascending colon appeared distended, and yielded a dull sound on percussion. Under these circumstances, I concluded this was a case depending upon local irritation within the pelvis, and not upon rheumatism or inflammation of the nerve, and therefore ordered—croton oil, one minim; blue pill and extract of hyoscyamus, each four grains; compound extract of colocynth, eight grains; to be divided into four pills, two to be taken that night: that she should gradually diminish the quantity of morphia until she left it off entirely, and abstain from solid food until I again saw her, which I did on the day but one after. I then found her much relieved, but extremely angry at the violence

of the medicine, which had acted very efficiently, dislodging a large quantity of hard, lumpy, dark-coloured, feculent matter. The pain, though diminished, was still very great, but she described it as having assumed the sensation of a severe bruise rather than the intense, sharp, burning pain which she had hitherto experienced. Her bowels had not acted for twenty-four hours, and (as up to the time of their ceasing to act the evacuations were not simply fluid, but continued to present scybalous matter) I prevailed upon her to repeat the pills at night, assuring her that when they ceased to meet with obstruction they would act less powerfully.

"After another interval of a day I again saw her. She was then (and she expressed herself) much better. The acute pain had entirely left her, and the sensation of bruising was so much diminished that she described it as more like numbness than anything else. She assured me she had not been so well for months. Her tongue was cleaner, abdomen softer; she could now walk across the room without pain, and had only taken her morphia once on the preceding day; her pulse was weak and her skin cold and clammy. I ordered three grains of the sulphate of quinine every four hours, and the morphia to be discontinued entirely. Under this medicine she rapidly recovered; the sensation of numbness disappeared, and she returned home cured after being in London for a fortnight.

"CASE 2.—Mrs. G——, residing at Brook Green, consulted me for lumbago and sciatica of the right leg. She had suffered for three months, and had been told it depended upon rheumatism, and was treated accordingly by cupping, blisters, warm bath, colchicum, &c., but without experiencing any relief. I prescribed the croton-oil pills as in the preceding case. She took them twice and was cured.

"CASE 3.—The Rev. E. C—— consulted me for sciatica of the right leg, of two months' duration, but very severe. He is a very talented strong-minded man, and fond of athletic exercises; but he describes the pain as so intensely severe as to be almost beyond the power of endurance, and that it entirely deprived him of rest, the only easy position being that of sitting; that when he endeavoured to stand upright, or to straighten his leg, he could scarcely refrain from calling out. He was first attacked with lumbago after riding in an open gig; but being engaged to shoot the following morning, he applied a large mustard poultice over the loins, which relieved him so much that he thought himself sufficiently recovered to keep his appointment; but after walking for about an hour, his sufferings became so great, he was obliged to return home and go to bed. He placed himself under the care of a gentleman, who gave him steel and quinine, and citrate of iron with quinine, and also applied chloroform blisters from the hip to the external malleolus by means of strips of lint dipped in the chloroform, and retained by bandage over the course of the nerve. This produced a broad stripe of blistered surface down the entire length of his leg, but increased rather than diminished his sufferings. He sought other advice, but with little benefit. I ordered him the croton-oil pills, as in the other cases. In two or three days he wrote up from his residence, about twenty miles in the country, that he had taken the medicine, but without deriving any benefit, and without its acting as he supposed I expected it would. I therefore doubted the drugs, and consequently had the same prescription prepared in London and forwarded to him. These acted most powerfully, and with an entire cessation from pain on the following day. The pain, however, returned in a day or two, when he repeated the pills, which acted briskly, though not so much so as on the first occasion; but he wrote me up word that the pain in the loins and around the hip was almost gone, but that he still suffered from a feeling of

bruising in the calf of his leg, and was extremely weak. I ordered him sulphate of quinine, three grains, three times a day. This, however, did not afford him the relief I had observed in other cases. His bowels became confined and the pain increased, as did the sensation of weakness, in consequence of which he begged I would not order the pills to be repeated. I ordered compound guaiacum mixture, a wine-glass full, thrice daily. This acted most satisfactorily; the bowels became completely evacuated, though for several days he continued to pass scybalæ until they ultimately disappeared, and he became entirely free from pain, and could stand up and extend the limb without the slightest inconvenience, complaining only of general debility. I now ordered him sulphate of quinine in one-grain doses, and he rapidly got well, three weeks from the time I first saw him.

“CASE 4.—Captain C—— consulted me on December 30th, 1853, for lumbago and sciatica of twelve months’ duration. Complains of pain in lower part of the back, extending towards the right hip and down the leg, and increased by fatigue. He attributes the attack to a severe fall on the flat of his back, after which he experienced symptoms simulating ague, rigors, sweats, debility, total loss of appetite, nasty taste in his mouth, and so much nausea that he could not touch anything. He says that when these symptoms were most severe the perspiration smelt very sour and sickly. Upon questioning him, I found that he had suffered from stiffness, like lumbago, after stooping, for six months before the accident. His bowels act regularly, but his motions are generally relaxed, unless he is baulked, when they immediately become confined; sleeps badly; appetite moderately good, though very capricious; thinks he can eat largely, but is soon satisfied, and feels full after eating; easily tired, but refreshed after an hour’s rest; had yellow fever slightly six months ago; urine natural; pain relieved by pressure in course of nerve; is most easy whilst lying on either side with his knees raised; the pain much increased when he lies on his back and endeavours to extend his legs. He has been treated for rheumatism and ague, having taken colchicum and quinine in large doses, and been blistered and rubbed with various applications. Ordered croton-oil, with mercurial pill, extract of hyoscyamus, and compound extract of colchicum.

“January 13th.—Better. Medicine acted very powerfully; says he felt better directly afterwards; has been much occupied, and had a great deal of exertion, but suffered so little pain that it scarcely attracted his notice. The medicine dislodged a large quantity of scybalæ. Ordered compound aloes pill, five grains, one every other night.

“27th.—I again saw this gentleman, he told me he had been entirely free from pain for several days.

“CASE 5.—C. A——, Esq., consulted me in November, 1853, for sciatica of the right leg. Had been ill four months, and treated by colchicum, blisters, &c., with but slight relief. Was bent nearly double with pain, extending down the course of the nerve and in the lumbar region. The pain is most severe at the knee, foot and calf of that leg; gets no sleep and feels very weak, though his appetite is good. To take croton-oil pills, two on alternate nights.

“Came again in four days. Says that the first day after he took the pills he was much better, but thinking to cure himself more rapidly, he had, contrary to advice, repeated them on the following night, when they acted so violently that he was completely prostrated; his pulse was irritable and the pain not so well as on the day before; his skin was covered with cold, clammy perspiration. Ordered, disulphate of iron, three grains, three times a day.

“I saw no more of this patient, but a few weeks afterwards his brother came

to consult me for a similar affection, and told me that he had rapidly recovered under the quinine."

Mr. Hancock recommends a careful examination before instituting this treatment, so as to be sure there is no irremediable pelvic tumour, in which case the treatment is, of course, contraindicated.

ART. 115.—*On Excision of the Knee-joint*; by (1) Mr. JONES, of Jersey; (2) Dr. KEITH, of Aberdeen; and (3) Mr. ERICHSEN, of University College.

(1) *Lancet*, April 22, 1854; (2) *Edinb. Monthly Journal*, April, 1854; and (3) *Lancet*, March 18, 1854.

During the present session Mr. Jones, of Jersey, has brought a paper on this subject before the Royal Medical and Chirurgical Society; and two new cases have been recorded,—one by Dr. Keith, of Aberdeen, and the other by Mr. Erichsen, of University College. On the occasion of the reading of Mr. Jones' paper, Mr. Fergusson took occasion to make some very important remarks. "When I began to entertain the question of reviving the operation for excising the knee-joint, I was," said he, "somewhat prejudiced against it, and my subsequent experience respecting it is certainly not very favourable. But now a number of cases had been brought forward, which showed that the success attending the operation was greater than that of amputation of the thigh when performed for accident or disease. It was worth recollecting that the proceeding was originally proposed by the Moreaus as a new plan of treating caries. They had a success equal to more modern surgeons. It had been shown to be the only cure for that disease, which was taken away altogether by the operation, and had no greater chance of return than a benign tumour. The object of resection, however, was not only to remove the caries, but to save the necessity of amputation. The latter proceeding had always been regarded as an opprobrium to surgery, and there was now ample proof that resection, in a vast number of cases, would set aside this opprobrium by saving the affected limb. On these grounds the operation was one of vast importance to surgeons. It was well known that resection of the elbow-joint was usually as successful a proceeding as amputation of the arm, and it had been well said, that 'amputation of the arm for elbow-joint disease was more a disgrace than an honour to surgery.' He (Mr. Fergusson) did not recollect a single case of disease of the elbow-joint which could not have been as well treated by resection as amputation; and on looking back he could only regret that so many operations of the latter kind had been performed. Resection of the knee-joint was an older operation than that of the elbow, and also as successful. It was remarkable that this proceeding should have remained in abeyance for so long a period, until he revived it, seeing that three out of the six cases operated upon in the early part of the present century had been successful. This might be accounted for, however, by the fact of more brilliant operations in surgery attracting the notice of surgeons,—such, for instance, as Hunter's operation for

aneurism, which was introduced about the time that Park and Moreau first performed excision of joints. Surgeons were now less zealous in tying large arteries than formerly, and it was thought better, in many instances, to resort to older plans. Great objections had been raised in some quarters to resection of joints. When Moreau sent his account of resection of the elbow-joint to the Academy of Surgery at Paris, it was received with a storm of disapprobation. The operation on the knee-joint had been opposed, particularly by two surgeons, but the results of the cases now before the society would enable the profession to judge of the real value of the operation. That proceeding was not to be judged of by the experience of a single individual, but by a number of cases. His own conviction was, that it was a proceeding as justifiable as amputation of the thigh, and far more beneficial, inasmuch as it saved the limb."

1. In Mr. Jones's paper it is stated, that an extensive prejudice exists both in England and France against this operation, although few attempts at curative surgery ever promised better at its commencement than this did. The first well-authenticated case (Mr. Filkin's case wanting data to substantiate it) was successfully performed in 1781. The next occurred in France in 1792; the patient dying some time afterwards of dysentery. It was twice performed in Dublin in 1823. The first patient lived three years after; the cure of the second was perfect. In Edinburgh, Mr. Syme performed the operation in 1829, on a child, who recovered; but was unsuccessful in his next case. The operation has been sanctioned by Park, Crampton, Moreau, and Syme. It was soon, however, allowed to fall into disuse; for, from the time of Mr. Filkin's operation, until 1850, a period of eighty-eight years, but twelve cases are on record. In this year, however, it was revived by Mr. Fergusson. A table of thirty-three cases was presented for the inspection of the society, showing that death had supervened upon the operation eight times only. Mr. Jones had been very successful, and he considered this due to the healthy locality in which he had performed it, and the admirable state of the hospital, which was situated near the sea. He also found great benefit from stimulating treatment after the operation. The objections to the operation are twofold—first, its severity, the danger arising from the shock to the constitution, hæmorrhage, &c., &c.; and, secondly, we are told, that union does not always occur. To these, the author replies, that the success attending the operation is a sufficient answer; that the limb has been more serviceable than the most admirably constructed artificial support. The hæmorrhage was generally inconsiderable. The limb grows after the operation, as was proved by three of the author's cases (children under ten years of age). Mr. Page's case also proves the same fact. The operation consists of a lateral incision on each side of the joint, and a transverse one across the centre of the patella; the flaps being dissected upwards and downwards, the patella removed, and the extremities of the tibia and femur being exposed, as much was removed of them as was found to be necessary; the bones were then placed in juxta-position, and put into a suitable box. Mr. Mackenzie, of Edinburgh, suggested the preservation of the patella, that bone being held to one side by means of a flat and turned-up spatula, over the inner condyle, and to this improvement the author gives his assent. He relates a case in which, after the performance of excision of the knee-joint, disease commenced in the opposite hip. Upon recovery, the patient found the limb which had been subjected to operation the stronger and more useful limb. The operation should not be performed indiscriminately in all cases.

It is not fit for those commonly called white swelling, and should not be delayed until the strength had been too much reduced.

2. *Dr. Keith's case.*—John Hay, æt. 9, from Old Aberdeen, of small stature, and delicate appearance, but of a happy and cheerful disposition, was admitted on the 7th November 1853, into the Royal Infirmary, Aberdeen, with scrofulous disease of the right knee-joint, which has existed, better and worse, for twelve months. The leg is fixedly bent on the thigh at an acute angle, the heel almost touching the nates. The knee-joint is much enlarged generally; the head of the tibia and condyles of the femur evidently expanded; the capsule of the joint is distended and feels pulpy. There is tenderness on pressure over every part of the joint, and actual pain on any attempt being made at movement or extension. The diseased limb, owing to wasting, looks, as a whole, diminutive beside its fellow. His general health is good, though he is reported to have had occasional attacks of diarrhœa within the past three months. His spirit is buoyant, and he earnestly desires to save his limb.

On Saturday, 26th November, at 10-30 a.m., being under the influence of chloroform, an incision was made from the inner to the outer condyle of the femur, in a semicircular line, the point of the flap reaching to the head of tibia, the ligamentum patellæ being there cut through. The flap, including the patella, was dissected from all its connections, to a line fairly above the condyles; the lateral and crucial ligaments were cut, when the utmost facility presented itself for sawing off the condyles of the femur. The articulating surface of the tibia was then sawn off from behind forwards, the line of section not reaching so low as the fibula. Two inches in whole being the exact measure of the two portions of bone removed at the operation. The face of the patella was implicated so far as to have become partially adherent to the trochlea of the femur, and was to some extent denuded of cartilage, it was therefore smoothed by the removal of a thin slice by the aid of a farrier's paring knife; the remaining portion of the patella being evidently healthy was allowed to rest in situ. Two small arteries only required ligature. Indeed the operation might be designated as bloodless, so little hæmorrhage having occurred. The wound was closed by six stitches, dressed with ointment, compresses, and bandage, and the limb extended to the utmost without any difficulty—laid and secured in a well-fitting Macintyre's metal fracture frame. The whole proceeding may have occupied five minutes. He was put to bed still under the influence of chloroform.

After the operation everything went on most satisfactorily until December 8th, when the projection of the edge of the femur at the extreme angle of the wound caused some pain and tension. For this the patient was put under the influence of chloroform, and this projecting edge removed. Afterwards everything went on well, except that a small abscess, which formed without any apparent cause, had to be opened on the upper and outer aspect of the flap, on the 18th of January. The remainder of the report is as follows:—

January 27th.—The wound has healed up. The boy stands firmly on both feet; the right limb, straight as an arrow, wants only one inch under the heel to make the bearing on both limbs equal. Allowed to rise and dress daily.

February 10th.—The wound firmly cicatrised. He is up daily, and going about on crutches. The joint has much the shape of its fellow; is solid to the feel, from the mass of callus present, and is entirely stiffened by ankylosis. The thigh on the right side is more plump than on the left, no doubt, in consequence of the shortening of the shaft, causing the muscles to belly out from relaxation. The joint bears handling freely.

February 16th.—He is daily going about, up and down stairs. By bending his other knee a little, he can walk with both heels on the ground. He requires no more surgical treatment, and might be dismissed cured.

March 10th.—He has been kept under observation, and permitted to run about the hospital until to-day, when he is allowed to return home. The right limb is just one inch shorter than its fellow, and is now the thicker of the two, both leg and thigh.

3. *Mr. Erichsen's case.*—William S—, æt. 7, admitted into University College Hospital, February 3d, 1854. The affection of the knee, which appears to have been of a scrofulous character, had begun two and a half years previously, after severe measles and chickenpox. He had, however, been delicate from birth, and at two and a half years of age, an abscess had formed and burst over the sterno-mastoid muscle. In April, 1854, Mr. Erichsen had made free incisions on either side of the joint, and evacuated in this way a considerable quantity of matter, the patient at the same time being subjected to the usual general and local treatment. The patient was also placed under the influence of chloroform, and the limb straightened, and put up in splints. The wound in the knee did not heal, and the patient making no satisfactory progress, was sent out of the hospital for change of air.

The operation of excision was performed on the 13th of February, 1854, the patient being pale and thin, but cheerful. The knee was somewhat enlarged.

The patient being under the influence of chloroform, an incision was made an inch above the inner condyle of the femur, along the side of the joint, to about an inch below the patella; a second incision ran across the leg; and a third parallel to the first, on the other side of the joint; the flap including the patella, was then raised, and the lower two inches of the femur removed with the saw. The upper portion of the tibia was sliced off, and a portion of the outer part gouged away. The under surface of the patella was likewise scraped, the hæmorrhage being altogether very trifling. The parts have since been kept in apposition, and the patient, up to the 10th of March, was doing well.

ART. 116.—*Case of Loose Cartilage in the knee-joint, treated by Mr. Syme's operation.* By Mr. MACKENZIE, Surgeon to the Royal Infirmary, Edinburgh.

(*Edinb. Medical and Surgical Journal*, Jan. 1854.)

The object of this operation is to fix the cartilage in a wound (made subcutaneously) of the synovial membrane, with a view of obtaining its adhesion to the surface of the wound.

“CASE.—Alexander M'Brain, a fisherman from Lochgilphead, was admitted into the hospital under my care on the 16th of February, 1852. For about five months previously he had suffered from weakness of the left knee-joint, which prevented him from following his occupation, and which was aggravated by repeated attacks of effusion into the joint, which always followed any attempt to walk.

“Having learned from Dr. Hunter of Lochgilphead that these symptoms were dependent on the presence of a loose cartilage in the joint, he came to Edinburgh for the purpose of having the body removed. He stated, on his admission, that, although he never suffered much pain in the knee, the state

of the joint rendered him so useless that he was willing to submit to anything which would restore the use of the limb.

"The cartilage was readily detected. It was of a flattened shape, and of the diameter of a shilling, and could be easily pushed about to all parts of the joint.

"On the 12th of February, having pushed the body as far as possible outwards over the external condyle of the femur, and keeping it fixed there by the finger of an assistant, I introduced a curved tenotomy knife through the integuments at about an inch distance, and turning the edge of the blade upon the cartilage, cut freely down upon it. Being satisfied that the joint was sufficiently opened, I pushed the cartilage edgeways into the opening and withdrew the knife.

"A compress was then placed over the track of the subcutaneous wound, and a second placed on the inner side of the cartilage, so as to keep the body steadily in the above position, whilst, as a matter of precaution, a splint was placed on the back of the limb, so as to keep the joint immoveable.

"No uneasiness followed this trifling operation, and the bandage was not removed till the 27th. The cartilage was then felt in the same position, and evidently firmly fixed. The compress was re-applied, and retained in its place by an elastic knee cap. About a fortnight after this, he was allowed to walk about, and he would have returned home had he not been suffering from a venereal sore, which he had contracted on his journey from home.

"He remained in the hospital till the 19th of May, when he returned home perfectly well. The cartilage was still to be felt, firmly adherent in the same position, but diminished to less than a half of its original size. The limb had nearly quite regained its former strength, and he walked without any limp or uneasiness.

"November, 1853.—Dr. Hunter informs me that this patient has followed his occupation as a fisherman ever since his return home, and has never experienced the least annoyance from the limb, which is as strong as ever. The cartilage can still be felt, firmly fixed in its place, but reduced to a very small size."

ART. 117.—*On the use of Adhesive Plaster in the treatment of Fracture of the Patella.* By Dr. NEILL, Surgeon to the Pennsylvania Hospital.

(*Pennsylvania Medical Examiner*, Jan., 1854.)

Dr. Neill's plan is to bring together the fragments of the fractured patella by means of long and broad straps of adhesive plaster ($1\frac{1}{4}$ in. wide). He carries each of these straps round the lower third of the thigh, so as to press the muscles and the detached fragment of bone towards the knee, and then, bringing it across the poplitæal space, he brings it back again by carrying it round the leg, immediately below the inferior edge of the patella. Four or five of these straps are applied, each one overlapping the former one, until the coils of plaster above the knee extend down to the edge of the patella. Two cases are related, in which this plan answered very well, in conjunction with ordinary and simple means for keeping the limb extended during the treatment.

ART. 118.—*On Excision of the Ankle-joint.* By Dr. BUCHANAN,
Ex-Surgeon to the Royal Infirmary, Glasgow.

(*Glasgow Medical Journal*, April, 1854.)

“Examined anatomically,” writes Dr. Buchanan, “I feel convinced that there is no joint in the body which can with so much ease be exposed, and the surfaces of which, if diseased, can more effectually be removed than that of the ankle-joint. The chief difficulty which presents itself is one which at first sight seems formidable—I mean the dislocation of the astragalus from the tibia, so as to have a free and complete view of the diseased parts—but if the malleolus externus is removed with the saw, on a level with the tibia, it will be found that the foot can be, with the greatest ease, inverted at a right angle to the leg, thus exposing not only the whole articular surface of the astragalus but also that of the tibia. The tendons of the peroneus longus and brevis muscles, as they pass round the malleolus externus, must no doubt be sacrificed; but these are of little consequence when we consider the importance of having a complete exposure of the disease requiring removal. In the case on which I operated, the disease of the joint had been of long standing, the cancellous structure of the astragalus, tibia, and fibula, had become soft and almost spongy; so that when the inversion of the foot, to which I have adverted, had been effected, almost as in a case of *talipes varus*, without *pes equinus*, I found no difficulty in removing the whole of the astragalus, and thereafter scooping out with the gouge the diseased surface of the tibia and malleolus internus.”

“CASE.—The patient, a girl, æt. 18, a mill-worker from Paisley, was admitted into the infirmary in the first week of April, 1850. She had laboured under all the symptoms of acute synovitis of the ankle-joint for two years previous to her admission under my care, and was very much emaciated; had passed through the usual routine practice of leeching, blistering, &c., &c., and did get better; but, so soon as the acute symptoms abated, she again entered the mill, where, by being obliged to stand at least sixty hours per week, the chronic stage was succeeded by acute attacks, till at last suppuration took place, and pus, with synovia, was discharged from two openings communicating with the joint; hectic fever supervened, and at last tuberculous pulmonary disease became superinduced. The consultation left the case in my own hands, either to perform amputation through the joint, above it, or by the operative procedure I had hinted at, of excision. The disease of the bones of the leg was limited to the articular surfaces of the tibia; the foot was sound, with the exception of the astragalus, and, therefore, I determined, at least, not to *guillotine* above this joint.

“Having rendered her insensible by the cautious exhibition of chloroform, assisted by my colleagues, Dr. Laurie and Mr. Watt, I began my incision on the outer edge of the peroneus tertius, carrying it only through the integuments and subjacent cellular tissue, in a semilunar direction, to the outer edge of the tendo Achillis. This flap having been carefully dissected back over the malleolus externus, I now divided the tendons of both peronei muscles, and by applying the saw to the malleolus and removing it, I at once exposed the joint at its lateral aspect; dislocation of the astragalus inwards, carrying the sole of the foot so as to make it look to the opposite leg, was the act of a moment; by this means I exposed the whole of the articular surfaces of

the astragalus and tibia, all of which were found in a carious condition; with a strong bistoury the astragalus was removed, and the distal extremity of the tibia and articular surfaces of the malleolus internus was scooped out with a gouge. The foot was now replaced, and the flap of integuments secured to the surrounding parts by stitches and bandages. Not more than two ounces of blood were lost.

"The patient felt greatly relieved from the pain and irritation of the diseased joint after the operation; she enjoyed sound rest; her hectic symptoms gradually abated; the wound cicatrised slowly and most successfully, and, on the 1st of May, when I left her in charge of my colleague, Dr. Laurie, I had every prospect of a most favorable result. Shortly after my leaving, however, Dr. Laurie informed me that the pectoral symptoms became more troublesome, the cough and purulent expectoration rapidly increased, and, although the result of the operation was most satisfactory, yet, in proportion as the wound of the foot healed, the metastasis of pus to the lungs increased; and, after about six weeks from the time the operation was performed, death took place. On inspection, after death, the wound of the joint had healed to a point, osseous callus, to a large extent, having been deposited in the site of the astragalus and malleoli."

ART. 119.—*A case of luxation of the metatarsal bones under the tarsus—a form of dislocation not hitherto described.* By Mr. TUFFNELL, Surgeon to the City of Dublin Hospital.

(*Dublin Quarterly Journal of Medicine*, Feb. 1854.)

Instances of luxation of the metatarsus *upon* the tarsus are very rare, only six having as yet been recorded, but luxation of the metatarsus *under* the tarsus is still rarer, and the subjoined case is the only one on record.

With regard to the diagnostic signs it will be seen that the foot is shortened three fourths of an inch or more, curved inwards, and at the base of the great toe broader than its fellow by an inch;—that the instep stands out sharply defined, with a sudden angular prominence and marked deficiency in front;—that the arch of the foot on its inner border is preserved, but the centre of the sole is occupied by the tarsal extremities of the displaced metatarsal bones. Mr. Tuffnell's account of the case is as follows:—

"For the opportunity of witnessing it I am indebted to Mr. Dolmage, surgeon of the 7th Dragoon Guards, in whose regiment the accident occurred, and in the following manner: a trooper was returning off duty to Portobello Barracks, Dublin, on the 30th of November, 1851, and was walking his horse cautiously, the road being very slippery from frost. Whilst turning a corner, bordering upon the canal, the animal suddenly slipped, and fell with his whole weight upon the soldier's right leg and foot, crushing it against the ground. The horse rose instantly, the man remaining in the saddle, but suffering such agony, that, unconscious of what he was doing, he reined the animal back into the canal. Here a violent struggle ensued, the horse eventually disengaging himself from his rider, who, assistance being at hand, was dragged out and taken to his regimental hospital close by. He was seen by Mr. Dolmage within a very few minutes of the accident having occurred, and before any considerable degree of swelling had taken place.

"The foot was found to be much shortened, curved inwards and bent, the tarsus presenting a hard bony projection, overhanging the metatarsus, whilst

deep under the plantar structures a second bony mass could be felt lying obliquely across the sole of the foot.

"Reduction was at once attempted by placing the patient on his back, fixing the pelvis, flexing the leg upon the thigh, and extension then made by pulleys attached to the extremity of the foot and to the toes, and persevered in for a considerable time, during which every possible movement of the metatarsus upon the tarsus, calculated to assist reduction, was resorted to, and leverage also made upon the dislocated extremity of the metatarsal bone of the great toe, where projecting in the sole, by means of a ruler being applied to it, and drawn upwards and forwards, whilst the clasped hand of a powerful assistant, placed upon the instep, held that part downwards and backwards. As great a degree of force as it was considered justifiable to employ was expended in the effort at reduction, and continued for one hour, but not the slightest alteration in the position of the bones could be effected. Considerable effusion and ecchymosis followed, the latter extending up almost to the knee. Leeches, fomentations, &c., were prescribed, and the ordinary treatment for violent contusions had recourse to. Under this treatment swelling subsided.

"All swelling and thickening had now disappeared, the outline of the tendons and every portion of the extremity being most accurately defined. In its general aspect the foot somewhat resembled a case of pes equinus, being considerably shortened and arched upon its inner border, the distal extremity of the metatarsal bone and first phalanx of the great toe being adducted, the last phalanx at the same time pointing somewhat outwards. The instep presented a normal condition from the malleoli to the extremity of the internal cuneiform bone, which projected in a sharp point, raising the integument, which was stretched over it, white and glistening like a tightly bent knuckle; from the outer border of the cuneiform bone ran an evident ridge, marking the division between the tarsus and metatarsus, and defining the line for Hey's amputation of the foot.

"The measurements of the injured member, as compared with those of the opposite foot, were the following:—Length of the dislocated extremity from the point of the great toe to the heel, $9\frac{1}{2}$ inches; of the uninjured foot, $10\frac{1}{4}$ inches. Breadth of the dislocated foot across its widest part at the base of the great toe, $4\frac{1}{4}$ inches; of the uninjured foot, $3\frac{1}{2}$ inches. The extensor tendons of the injured foot stood out in strong relief, raising the toes; the tendons of the sound foot could be but indistinctly seen.

"These were the principal appearances which presented themselves. The patient at this time had made no effort to walk, for upon the few occasions on which he had tried to use the limb, supported by crutches, he found a total inability to move otherwise than on the heel, in consequence of pain of a burning, lancinating character being produced on the sole of the foot, whenever he attempted to throw any weight upon the toes, and to place the plantar structures on the stretch.

"Six months afterwards I obtained a second cast of the foot, and again carefully inspected the limb. It had now become more inverted, and the projection in the sole was less evident, having been rounded and partly removed by absorption. The patient walked freely with a stick, bearing his weight on the outer border of the foot, as in a case of talipes varus, but he could not make any effort at progression, or even move, when the foot was placed flat upon the ground, from the same burning pain before referred to, and which he described as resembling the feeling that might be imagined to result from attempting to walk in a very tight boot with a marble under the sole of the foot."

PART III.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A.) CONCERNING PREGNANCY AND PARTURITION.

ART. 120.—*Case in which the Birth of Twins was separated by an interval of fifteen days.* By M. DMOCHOWSKI.

(*Compte Rendu des Trav. de l'Assoc. Méd. d'Eure-et-Loire ; & Rév. Méd.-Chir.*, March, 1854.)

CASE.—The patient in this case was a well-formed, healthy primipara, whose pregnancy presented nothing unusual or remarkable. She was delivered of a child by a midwife on the 1st of June, 1853, and her confinement had this peculiarity, that there was no swelling of the breasts, no secretion of milk, and, as she thought, no lochial discharge. In three days she got up, and went about her daily duties.

Two days later she was examined by M. Dmochowski, and pronounced to be pregnant of a second child, the beats of whose heart, and the movements of whose limbs, were plainly perceptible. The abdomen was enlarged, but not very greatly so. The breasts were neither flaccid, nor engorged. The genitals were lax and ecchymosed, and there was a very slight appearance of lochia. The os uteri was partially open, and a bag of membrane could be felt high up within it.

On the 14th, M. Dmochowski was summoned to her bedside. The water had escaped several hours previously, and the pains were severe and frequent. The os uteri was open, but rigid. The presentation was irregular, and it was deemed necessary to turn; but this was found to be impracticable until the patient had been bled. The child was dead. The first child was a boy; this was a girl; and both were as large as twins usually are. The placenta presented no peculiarity.

After this second confinement there was an attempt at the establishment of the secretion of the milk and of the lochiæ; but this soon passed off, and three days later the patient sank, apparently from puerperal fever. The body was not examined.

ART. 121.—*Case in which a Fœtus escaped into the Abdominal Cavity by Rupture of the Uterus, and remained there for fifty-four years.* By M. NEBEL.

(*Zeitsch. für Rationelle Med.*; and *Gaz. Méd. de Paris*, Dec. 10, 1853.)

Speaking of a case of gasterotomy, which we have noticed elsewhere (v. p. 192), M. Nebel mentions a most remarkable case which occurred to his great-grandfather, and of which he still preserves the fœtus in his

museum. This case was recorded at the time in the 'Ephémérides des Curieux de la Nature,' cent. vi, obs. 52. The foetus in question was extracted in 1767 from the body of a woman who had died of peritonitis, at the age of 91 years. After two natural confinements, this woman became pregnant a third time, on which occasion the arm of the child presented. This was in 1713. The midwife attempted to turn, but instead of this she ruptured the uterus, and the child escaped into the abdomen, where it remained—until it was extracted at the *post-mortem* examination—fifty-four years. The mother it appears was twice pregnant after this, but aborted on each occasion.

ART. 122.—*Case of extra-uterine Pregnancy.* By Dr. WEST,
Physician-Accoucheur to St. Bartholomew's Hospital.

(*Edin. Medical Journal*, Dec., 1853.)

In this case the foetus escaped into the peritoneal cavity, and the patient died, though less suddenly than is usual under such circumstances.

CASE.—Sarah Moss, æt. 28, a married woman, the mother of two children, was admitted into St. Bartholomew's Hospital on June 7th, 1853. She stated, that her symptoms of illness had commenced six weeks previously, when, after unusual exertion, she was seized with pain in the lower part of her body; and, on examination, found that her womb had come down, and was protruding externally. Having retired to bed, the womb receded; but, soon afterwards, a profuse discharge of blood from the vagina took place, attended with considerable pain. The flow of blood continued for three weeks afterwards, when, under the influence of some medicine prescribed for her by Mr. Wood, the resident medical officer of the hospital, it entirely ceased, and she much improved in health. It appeared, however, that through the whole time she had suffered severely from pain in the lower part of the abdomen, especially during the evacuation of the bladder or bowels, and that, by a sudden increase of this pain, she had at length been induced to apply for admission. On examination, the slightest pressure over the hypogastrium appears to occasion intolerable pain, more especially in the left iliac region. She has a constant desire to pass water, but has not been able to do so for twelve hours; the bowels have not acted during the past day. She lies in bed with the knees drawn up, and her countenance is expressive of pain. Pulse 96, sharp; tongue coated; no vomiting. The catheter having been easily introduced, about half a pint of urine was drawn off. On examination *per vaginam*, the os uteri was found to be tilted backwards, and extremely tender to the touch; when pressure was made backwards on the parts between the vagina and rectum, the pain produced was so great, that the examination could not be persisted in. A castor-oil enema was ordered to be administered, and twelve leeches to be applied over the pubes.

8th.—The patient had two rigors yesterday. She has passed a restless night, and her countenance is still expressive of great anxiety. No urine having been passed, the catheter was again had recourse to; its introduction, although easily accomplished, appeared to occasion great pain. The vaginal examination, although very painful, was not so much so as yesterday. A tumour, the size of an apple, but elongated in form, was detected, occupying the cul de sac between the bladder and rectum, but placed considerably more to the left than the right side. By it the uterus was pressed forwards, until its

cervix was situated immediately behind the pubic symphysis. The tumour had an irregular outline, and gave a sensation to the finger as if it contained fluid. The os uteri was open, and the body of the uterus seemed less freely moveable than natural. Ordered hirudines vj. vaginæ. R Pulv. ipecac. co. gr. x. horâ somni.

She died with all the symptoms of peritonitis five days afterwards.

Post-mortem Examination.—The abdomen having been opened, the uterus was seen enlarged to about three times its natural size, and tilted forwards, its fundus being in apposition with the anterior parietes. The pelvic cavity was filled with coagulated blood, which had moulded itself to the surrounding organs; there was also about a pint of blood in a fluid condition. The coils of intestine were displaced out of the pelvis, and, in many parts of the lower half of the abdomen, they were adherent by dry shreds of coagula. On search among the extravasated blood, a small fœtus, of apparently about two months, with its investing membranes, was found lying quite detached. In the walls of the left Fallopian tube were the remains of a small cavity or laceration, which could not, however, be proved to have communicated with its interior. Both ovaries were in a normal condition, as also the uterus, excepting that the walls of the latter were much thickened, and that its interior contained well-formed decidua.

The case just detailed presents us a good example of the usual termination of cases of tubal gestation. It is well known that, when the fœtus is detained, and undergoes development within the cavity of the Fallopian tube, it is seldom carried beyond the second month, about which time it usually escapes by rupture into the peritoneal sac, gives rise to profuse internal hæmorrhage, and destroys the patient. Although these cases are far from being of frequent occurrence, yet we think the observation is warranted as a general one, that they almost always terminate very rapidly. No time is left for speculations as to diagnosis; a woman, suspecting herself pregnant, and having perhaps suffered more or less of aching pain in one or other iliac region, is suddenly seized with a sharp pain in the belly, almost immediately sinks into deep collapse, which very soon ends in death. Such is their usual history. There is something very unusual in the duration of the urgent symptoms in the above case. Setting aside, as accidental concomitants, the uterine prolapse and hæmorrhage, which occurred six weeks before death, and also the abdominal pains, &c., which followed it, we yet seem to have evidence that the first escape of blood took place a full week before the fatal event. On the day after admission, a tumour the size of an apple, and yielding a sense of fluctuation, was distinctly felt by vaginal examination; and, judging from the symptoms which had been present, there is little doubt but that things had been in the same condition during the two previous days. Subsequent to this, however, two distinct shocks of collapse occurred, in the last of which the patient died. From consideration of these facts, we seem to be led to the conclusion, that the process of escape of the ovum from the interior of the tube to the peritoneal sac was accomplished, not as it usually is, by a single rupture, but by several distinct ones. At first, probably, the laceration was only of the walls of the tube, and the extravasation resulting from it was bounded by the peritoneal folds, behind which it lay. Such a condition would well account for the pain, constitutional disturbance, &c., which were present; and it may readily be supposed, that the collapse which occurred suddenly on the 11th was due to an accidental increase in the quantity of extravasated blood. It may be doubted whether the rupture of the peritoneal layer, and the escape of the blood, &c., into the cavity of the abdomen, occurred at this date, or immediately preceding death, since, under either supposition, the symptoms are

quite explicable. We need scarcely point out, that the difficulty there was in tracing the laceration into the canal of the Fallopian tube, much supports the conclusion, that time enough had elapsed for it to become closed.

ART. 123.—*Case of Pregnancy in a rudimentary horn of the Uterus, with probable advance of the Ovum from the right ovary into the left horn of the Uterus.* By PROFESSOR SCANZONI.

(*Verhandl. der Phys. Med. Gaz. in Würzburg*, Bd. 4, 1853; *Edin. Medical and Surgical Journal*, Jan. 1854.)

In his handbook of 'Pathological Anatomy', Professor Rokitansky describes an unique preparation, in the Viennese anatomical collection, exhibiting a pregnancy in a rudimentary uterine horn. The case of Professor Scanzoni is an interesting addition to this extraordinary class of cases.

CASE.—The woman generally enjoyed good health, and regularly menstruated. She was married in her 28th year—had a miscarriage of twins five months afterwards, and subsequently bore three children which still live. In her last two pregnancies, she tried by violent exercise to induce premature labour. During the first half of all her pregnancies she suffered much from vomiting, toothache, heartburn, and œdema of the lower extremities.

In July, 1852, she conceived for a fifth time, and again used every means to induce premature labour. No disorder of general health occurred in this pregnancy. On the 21st of November she had a quarrel with her husband. The same evening, and also on the next, she complained of slight colicky pains in the left hypogastric region, which, however, did not prevent her from going about. But she soon became very weak, and had to be carried to bed. This was at ten o'clock forenoon. At midnight Dr. Scanzoni visited her, and diagnosed an extra-uterine pregnancy, with profuse internal hæmorrhage, in consequence of the rupture of the containing sac. She died almost immediately afterwards.

At the post-mortem examination, there was found in the lower half of the abdomen a great quantity of variously altered blood. After its removal, there was observed on the left side a round swelling, of about the diameter of $3\frac{1}{2}$ inches, with a laceration on its outer border. In it were contained the membranes and placenta of the fœtus, along with coagula of blood. The cord was six inches long. The corpus luteum was in the right ovary. Both Rokitansky and Scanzoni, on first viewing their cases, thought they had to do with tubal pregnancy, and only on further examination discovered the true nature of the cases. Such cases are described by Rokitansky as an intermediate link between uterine and tubal pregnancy.

Scanzoni's case is interesting physiologically, as belonging to a series where the corpus luteum is formed on the ovary of the side not corresponding to the uterine horn or tube which is pregnant. Such cases at once suggest the idea that the ovum must have performed a long journey from the ovary of the one side, through the uterus, and into the passages belonging to quite the other side. Scanzoni states that many analogous observations have been made in the lower animals, but he is mistaken in supposing that his own is the first in the human subject.

ART. 124.—*Cases of Cæsarian Section.* By (1) M. FAYE; (2) M. MAZIER; (3) M. HALDER; and (4) M. NEBEL.

(1) *Norsk. Mag.*, Bd. 6; and *Edinb. Mon. Jour.*, Feb., 1854; (2) *Jour. de Méd. et Chir. Pr.*; and *Méd.-Chir. Rév.*, Oct. 1853; (3) *Nederland Weekbl.*, Aug., 1853; *Edinb. Mon. Jour.*, Feb., 1854; (4) *Zeitsch. für Rationelle Med.*; and *Gaz. Méd. de Paris*, Dec. 10, 1853.

Four cases are related in the medical periodicals of the last six months, and of these three were successful.

1. *M. Faye's case.*—The patient was a primiparous woman, aged forty, whose labour commenced on the 3d June, 1850. After continuing some time the pains altogether ceased; when venesection and enemata were had recourse to, but without benefit. On a vaginal examination the breech of the child was felt immediately above the symphysis pubis, and to the right of it was distinguished a large rounded body. A large immobile tumour, of cartilaginous consistence, was felt occupying the whole hollow of the sacrum, and the left iliac fossa. A similar tumour, pretty high in the pelvis, could also be diagnosed to the right of the sacrum. The uterus was so high that the cervix could not be reached by the finger. Thus matters continued for two days; then weak pains recommenced, but with no effect, as it was found that the tumours had somewhat descended, diminishing the outlet of the pelvis to one inch in diameter. On an exploring trocar, with hooked extremity (*wiederhaken*), being thrust into them from the rectum, no fluid was found to exude through the canula, nor was any of their substance brought away. Cæsarian section was resolved on, and performed in the usual manner under the influence of chloroform.

The child was found in the second breech-presentation (sacro-posterior), and was easily extracted alive. Some hæmorrhage occurred after the removal of the placenta, but this was effectually arrested by compression of the abdominal aorta. Vomiting occurred after the operation, followed next day by abdominal pain, return of hæmorrhage, collapse, and death. On examination, *post-mortem*, two large fibrous tumours were found attached by pedicles to the posterior wall of the uterus.

This is the fourth case of Cæsarian section which has been performed in Norway within the last ten years. Two of these occurred under very disadvantageous circumstances, viz., after forceps and craniotomy had been tried. In three cases the children were extracted alive, and in two they ultimately survived. In every case the mother died—at periods varying from a few hours to five days after the operation.

2. *M. Mazier's case.*—This case, which occurred at Laigle (Lorne), is a wonderful instance of recovery under the most adverse circumstances, and fully exemplifies the greater success of dangerous operations in the country than in towns. Madame Soret, æt. 32, of robust constitution, the mother of two children, after a normal pregnancy, fell in labour on the 30th December, about 3 p.m. The child presented by the feet. The pains, at first slow, became strong and frequent towards nine o'clock. About eleven, a pain of great violence came on, forcing the patient to scream aloud, and blood was at the same time discharged in a copious stream. The labour ceased immediately, and on examination the feet of the child could no longer be felt. The blood continued to flow in abundance for an hour, but without any return of the pains. The medical men in attendance declined to act till the pains should return, and the patient remained that whole

night, and the following day and night, in a very precarious condition, suffering severely from acute pain in the whole abdomen, but especially in the epigastrium. On the 1st of January, M. Mazier was called in, and, arriving in the afternoon, was not joined by the other medical men till late in the evening. He found the patient pale and emaciated, a marked coldness over the body, the belly tense and unable to support the least pressure. The child could be felt through the abdominal parietes, apparently removed from the pelvic region, and occupying the superior part of the abdomen. On examination, per vaginam, an extensive rupture of the uterus was detected on a level with the superior aperture of the pelvis, the tear remaining open for a quarter of its length on the left side, and elsewhere obstructed by clots of blood, &c. Gastrotomy being decided on, the operation was performed by an incision of about sixteen centimetres in length, dividing nearly the whole extent of the linea alba from the umbilicus to the symphysis pubis; and the child and placenta were extracted from the peritoneal cavity. The child was dead, and had evacuated, for the intestines of the mother were stained by the meconium; the dirty serum and small blood clots were removed, and the incision united by the twisted suture. The operation was succeeded by very little fever; the pain and tension of the abdomen soon gave way; there was some suppuration by the vagina; the wound was cicatrised on the 8th. With the exception of an eruption on the skin, and pain in the rectum, attended by constipation, and removed by appropriate evacuations, no remarkable symptoms occurred, and the patient steadily improved. At length the neck of the uterus could be felt pushed back and adherent to the rectal region of the true pelvis. The cicatrix of the rupture and of the incision was complete, and the patient had resumed her ordinary occupations forty days after the operation. A hernia of the linea alba could be observed under the skin for one half the extent of the incision, but this was the only trace left of this perilous operation.

3. *M. Halder's case*.—The patient was a woman, with an oblique and contracted pelvis, who had twice borne dead children. In her third confinement the head of the child became impacted at the brim. The pains, which were very strong, suddenly ceased; the patient became pale and uneasy, and the pulse sunk very low. On examination a rupture was found to have taken place at the posterior part of the uterus. Dr. Halder thereupon performed the Cæsarian section, and extracted with ease, a dead child, having a greatly enlarged head. In five weeks after the operation the patient had completely recovered.

4. *M. Nebel's case*.—Barbe J., æt. 30, pregnant for the 4th time, injured herself by a fall in the 6th month of her pregnancy. At first she suffered little, but six weeks afterwards she was seized with violent uterine hæmorrhage and pain, and with considerable sudden enlargement of the abdomen. At this time there were no uterine contractions, and the os uteri continued closed. The foetus could not be felt on the usual examination. These acute symptoms subsided in a few days under the employment of leeches and other remedial means.

On the 29th of January (no previous date is given) the water escaped, and on the day following the placenta came away, *but without any trace of the foetus*. The appearance of the end of the cord, and of the placenta, indicated a foetus of the 7th or 8th month.

On the 4th of February, two red inflamed spots made their appearance on the *linea alba*, and the symptoms of severe peritonitis became developed. Two days later these spots sloughed, and gave exit to purulent matter.

M. Nebel saw the patient again on the 9th of February, when he found

the abdomen greatly distended, and upon the point of rupturing at the sores already mentioned. He was able to detect a hard foreign body immediately under the parietes. Everything seemed in a desperate state—a cadaverous odour exhaled from the wound, and the patient seemed at the very point of death.

Under these circumstances gasterotomy was performed, and a foetus extracted without any difficulty from immediately under the skin. The foetus, which was partially invested in a case of false membrane, was far advanced in putrefaction. Much offensive, dirty, sero-purulent fluid was formed in the peritoneal sac, which fluid was carefully cleansed away, and the parts bathed with warm water. The uterus was contracted, and deep down in the pelvis, so that it was not possible to examine the opening through which the foetus had escaped.

The report goes on to say that the patient rallied without any accident, and was well again in six or seven weeks.

M. Nebel supposes the child to have died at the time of the fall, and then to have passed into the cavity of the abdomen by progressive absorption and ulceration of the walls of the uterus.

ART. 125.—*Case of Inversio Uteri occurring during labour.*
By Dr. PAGE JOHNSON.

(*Dublin Quarterly Journal of Medicine*, Feb. 1854.)

This unusual and interesting case occurred to Dr. Johnson while “assistant” in the Dublin Lying-in Hospital. The account is taken from the Report of the Dublin Obstetrical Society.

Esther Page, æt. 19, a thin, delicate-looking woman, of fair complexion, was delivered of her first child, a healthy girl, on the 31st of July, 1851. Her labour so far was easy, and of about six hours’ duration. The gentleman in attendance, after having tied and separated the funis, had maintained the contraction of the uterus with the hand above the fundus—in accordance with the usual practice of the hospital—for about a quarter of an hour, when, finding a tendency to “draining,” he increased his pressure; but, as he said, not nearly to the extent it has been, on frequent occasions found necessary to employ, in order to assist in the expulsion of the placenta, or restrain hæmorrhage. The uterus was felt suddenly to yield and recede from his grasp, and he immediately saw it expelled from the vagina, an inverted mass, with the placenta still attached. Dr. Johnson was at once sent for; on his arrival he found the woman pallid, exceedingly anxious, complaining of considerable pain, and a sensation of sinking; the pulse was weak, indeed scarcely to be felt.

Examination proved the uterus to be inverted with the placenta attached to its fundus; the funis was of the ordinary length, and there was then no hæmorrhage. Recollecting that the lapse of every minute was of consequence, Dr. Johnson proceeded to replace it at once, which he accomplished in the following way:—He first detached the placenta,—a matter of no difficulty, there being no morbid adhesion,—and he was pleased to find that after it was separated, no hæmorrhage followed, owing he considered, to the constriction the vessels underwent at the cervix; he then restored the cervical portion of the inverted organ, which was easily returned within the vagina, and re-inverted as far as the body; but it was some time (five to seven minutes) before he could reduce the fundus, which required the fingers to be

held in a flexed condition against it, while he made counter-pressure with the left hand above the pubis. Some wine had been given to the patient to relieve the sensation of exhaustion, but it was not till the uterus had been restored to its natural state that she could be persuaded her immediate dissolution was not close at hand; ergot was afterwards administered, and she was kept longer in the horizontal position than ordinarily. Milk was secreted on the third day; she made a perfect recovery, and was discharged quite well.

ART. 126.—*The inner surface of the Uterus after delivery.*
By Dr. M. DUNCAN.

(*Medico-Chir. Rev.*, Oct., 1853.)

It has hitherto been generally taught, that in parturition there passes away with the expelled ovum, or after it, the entire decidua membrane, leaving the muscular or proper structure of the uterus bare over the entire inner surface of its cavity, and, in contradiction at once to observation and analogy, that over this surface a false membrane is formed, beneath which there springs up an entirely new mucous membrane. But the investigations of the author have convinced him that in the healthy female the muscular tissue of the uterus is at no time laid bare. After parturition the remains of the uterine decidua are left covering this surface. At the site of the placental insertion, this membrane appears thicker than elsewhere, and presents numerous elevations and depressions, and also the open mouths of the utero-placental vessels, which have been, as it were, cut across by the separation of the after-birth.

This membrane is distinguished from the muscular tissue by its softness, its colour being different in a cross section, and its microscopical characters.

As the uterus diminishes in size in the progress of its natural involution, this membrane increases greatly in thickness, and becomes more and more easy of demonstration. At the same time, the muscular tissue underlying it diminishes rapidly in thickness. The large veins become obliterated, and in five or six weeks the womb has resumed its unimpregnated condition.

ART. 127.—*Case of sudden death during parturition from Rupture of the right pulmonary Artery.* By Dr. COOKE.

(*Dublin Medical Press*, Sept. 28, 1853.)

Dr. Cooke writes as follows:

CASE—Mary Herleby, æt. 36, was brought in a car to the Macroon Union Infirmary on the 3d instant. She stated that she was in labour of her sixth child; that her illness commenced two days previously, while travelling to join her husband, who had obtained employment in a distant part of the country; that she had not expected her confinement for another month; and that she had been received into a farmer's house and kindly treated. Whilst answering my questions, she had a sharp pain, and, on examination, I found

the os dilated to the size of a crown-piece, and very soft and yielding, a bag of membranes presenting, but no part of the fœtus was within reach. I should have conceived her to be not more than six hours in labour, were it not for her own statement, corroborated by the woman who accompanied her, to the effect, that she had suffered occasional strong pains for forty-eight hours previously. She was a remarkably handsome, well-formed woman. Her circulation and respiration were good, and all the symptoms seemed to promise a safe, if not a speedy delivery. I ordered a domestic enema, and left her in charge of a careful intelligent nurse-tender, with directions to send for me when her labour was more advanced. In exactly an hour after, I was hastily summoned, and was at her bedside in ten minutes, but found she had expired in a few seconds after the message was sent to me. The nurse informed me that she had not left her for an instant; that her pains had not altered either in character or frequency until within a few minutes of the fatal termination; that then, during a stronger pain, a small quantity of liquor amnii was discharged; that shortly after a powerful expulsive effort followed, during which her face and neck became very livid; that when the pain ceased she complained that her heart was leaving her; that her respiration became suffocative, and she died in a few minutes. Having satisfied myself by auscultation that the fœtus was not living, I did not perform the Cæsarean section. I made a *post-mortem* examination in eighteen hours after. The body was well-formed and moderately fat. The chest was very broad, and the mammary glands well developed. The face was pallid, and on the front of the neck there was considerable ecchymosis. The uterus was healthy, it contained a male fœtus of about seven months, very much macerated; the breech presented low down in the pelvis; there was a turn of the cord round the neck. The placenta was very firmly attached to the upper and anterior part of the fundus, and the usual quantity of liquor amnii was present. All the abdominal viscera were perfectly healthy. On opening the cavity of the chest, I found a quantity of fluid blood and some coagula, and soon traced the source of it to be a rupture in the right pulmonary artery, just where it passes through the arch of the aorta. The heart and lungs were healthy, and the ruptured vessel did not indicate any proof of disease or weakness. Here, then, was the cause of death; it was altogether a fortuitous accident which no treatment could have averted; yet had this case occurred in private practice, where a *post-mortem* examination was not obtainable, the attending surgeon would have found it very difficult to absolve himself from blame, and the occurrence might have produced an injurious influence upon his practice for years.

ART. 128.—*Effects of Menstruation on the Milk of Nurses.*
By MM. BECQUEREL and VERNON.

(*L'Union Médicale*, No. 70; *Medico-Chir. Rev.* Oct. 1853.)

Upon the effect which the occurrence of menstruation exerts in women who are suckling, there is discrepancy of opinion among authors, the majority, however, with the public at large, believing in its deteriorating influence. So great is the difficulty in obtaining true statements upon this point, that, among the great number of hired nurses in Paris, the authors have only been able to examine the condition of the milk in three women while actually menstruating. In these, the density of the fluid was found slightly diminished, as was the proportion of sugar, and the proportion of water was sensibly so. The

solid parts were notably increased, especially the casein. The authors cannot believe that such changes in composition can induce any mischief beyond some temporary derangement in the digestive organs, and even this might be prevented by causing the child to suck less, and letting it drink a little sugared water, to replace the sugar and water lost during menstruation.

In the discussion that followed reading the paper, M. Roger observed that, while attached to the Office for Nurses, he had paid considerable attention to this point, and that he had arrived at the following conclusions :—If the menses reappear easily, without pain or derangement of the nurse's health, while her milk is under twelve or fifteen months old, and the quantity of blood lost is normal and moderate, the quantity of milk does not become diminished, or its qualities altered, and the child does not suffer from its use. If, however, the menses are too abundant or too frequent, the milk may diminish in quantity or disappear. The same effect is also produced, though more slowly, in some days or weeks, when the menses are prolonged for a week, so that the loss is considerable. The milk will much more certainly dry up if the menses reappear at an advanced period of lactation—this being then the signal of the imperfection and approaching termination of the secretion.

When the milk becomes thus diminished, it rarely exhibits the physical characters of poor milk ; but by its density, whiteness, and the excess in number and size of its globules, it more approaches in character and richness cow's milk. When the menstrual epochs reappear with difficulty, and are attended with pain, indigestion, diarrhœa, &c., or are preceded or followed by leucorrhœa, the child may suffer symptoms due to indigestion induced by the altered characters of the milk, the alteration of the milk chiefly consisting in increase in the number and size of the globules. These influences are, however, only temporary, and the milk soon recovers its normal character. The ailments which the child hence suffers are only temporary, and have been greatly exaggerated.

ART. 129.—*On Puerperal Arteritis and arterial obstruction.*
By Professor SIMPSON.

(*Medical Times and Gazette*, Jan. 28 and Feb. 4, 1854.)

The paper, of which the abstract is subjoined, was read before the Medical and Chirurgical Society of Scotland, in the last session.

The writer began his paper by observing, that inflammation and obstruction of veins was comparatively a subject only of late research, and yet all were ready to acknowledge its practical importance as a subject in the pathology of obstetrics. Hitherto there had been no mention of arteritis and arterial obstruction in any of our obstetrical works. Dr. Simpson believed it not so common as venous inflammation and obstruction after labour ; but still we as yet know little of the symptoms which indicated its occurrence, and perhaps the pathological results had often been overlooked. Dr. Simpson had collected a number of cases, and from them was led to believe it not so rare as

might be supposed. Inflammation and obstruction of the arteries seemed to arise from several causes, as the separation of cardiac vegetations blocking up the vessels; the passing forward into the current of the circulation of fibrinous masses forward into the cavity of the heart; from local arteritis; from diseases of the blood; or, lastly, from laceration of the internal coats of the vessel. The only detailed case of arterial obstruction and inflammation in the puerperal female was one described by Dr. Simpson to the Obstetric Society of Edinburgh, and contained in the 'Monthly Medical Journal' for March, 1847. The symptoms followed a case of placental presentation, and carried off the patient five weeks after delivery. The lady, before becoming pregnant, had laboured under endocarditis, and during gestation had attacks of difficult breathing. Hæmorrhage came on at the eighth month, and the placenta was found presenting other complications, rendering the use of long forceps necessary, and a living child was extracted. The mother seemed recovering for some days satisfactorily; but, subsequently unfavorable symptoms showed themselves; and during the second week after delivery, Dr. Simpson found, on making his visit, that no pulse could be felt in the right arm lower than the elbow. The limb was stiff and benumbed. Gradually and feebly pulsation returned in the arteries of the right forearm, but the lower limbs seemed also similarly affected. At length, erratic symptoms of phlebitis showed themselves, and the patient died, apparently from phlegmasia dolens of the left arm and left side of the face. On the body being opened, the left vena innominata was found entirely shut up by a lymph plug. The humeral artery at the bend of the arm was occluded, but no marks of laceration appeared, as in the cases described by Professor Turner some years ago. The uterus was healthy. The valves of the left side of the heart were covered with small vegetations. Dr. Simpson went on to inquire—Was the obstruction of the artery produced by the separation of a cardiac vegetation, and its deposition in the humeral artery? or was it the result of arteritis? Or, lastly, was it the result secondarily of the phlebitic inflammation. The first supposition he had regarded as most probable, but until last summer he had had no opportunity of seeing a like case: a diagnosis had been formed then from the symptoms which had been verified after death. A young patient was prematurely delivered of her first child, and continued to recover for three weeks, when feverish symptoms and diarrhœa supervened, and the lochia became slightly hæmorrhagic. Soon pains, like neuralgia, were experienced in the right leg, sometimes in the left, and often it was very violent. Seven weeks after delivery there was sudden pain in the left groin, and a loud systolic bruit was heard on listening to the heart. No rheumatism had preceded. Some days after, the pulse in the right arm became arrested suddenly, as the day before it had been felt by Dr. Moir, the patient's usual attendant. The day after, the pulsation had disappeared from the femoral arteries in both sides. At last gangrene appeared in the toes of the left leg, and the patient gradually sank. After death most of the abdominal and pelvic organs were found healthy, but the spleen was pulpy, and some lymph masses were deposited in it. The aortic valves of the heart were covered by friable vegetations, and the aorta just above

its bifurcation into the iliac was occluded by a mass which extended along the iliac arteries, and was accompanied by purulent matter at several points. In the plugs were portions which resembled in appearance the valvular vegetations. A pulpy mass blocked the right humeral artery at its bifurcation. The left femoral vein was also inflamed. In general and microscopic characters, some parts of the occluding masses resembled the heart vegetations. Dr. Macfarlane had furnished particulars of a third case, which bore a marked resemblance to the last in its details; the cardiac vegetations were, however, very small. The brachial and femoral arteries were obliterated, and at the upper part of the occluding clots a small hard body was found, identical with the cardiac excrescences. Another case the author had through the kindness of Dr. Lever. The patient had acute rheumatism during pregnancy, and afterwards lost arterial pulsation in both extremities on the left side. Gangrene and death of the patient were the result. The valves on the left side of the heart were found covered with vegetations, and both arteries and veins in the affected extremities were obstructed. The subject of separated cardiac vegetations had been brought before the profession in an admirable paper by Dr. Kirkes, and Dr. Ruhle, had subsequently offered some suggestions on the subject. The cases mentioned by these authors were chiefly instances in which head disease had resulted from detached cardiac vegetations, and in the puerperal female this seemed sometimes to be the form of disease exhibited. Dr. Burrows, who for some time had paid much attention to the subject, had sent him (Dr. S.) the details of a case of this nature. The patient, who was apparently suffering from the effects of over lactation, and had obscure rheumatic pains in the limbs, became suddenly hemiplegic, after making a little more exertion than usual. On examining with the stethoscope, a loud rasping bruit was heard over the heart, synchronous with its systole. The memory was impaired, the speech affected; and with these symptoms the patient died. At the autopsy the mitral and aortic valves were found covered with vegetations. The left corpus striatum was a mere diffuent pulp, and the artery supplying this portion of the brain was occluded by a small mass like a grain of wheat, which was implanted in it at its origin from the middle cerebral artery. No examination was made of the arteries in the painful limbs. From the occurrence of hemiplegia, with the loud systolic bruit, the true nature of the case had been diagnosed by Dr. Burrows during the life of the patient. The five preceding cases were apparently of the same nature, and there were two circumstances which were true as applied to the whole of them—1st. In the whole, vegetations were found in the aortic valves. 2nd. Loose portions, having a like appearance and structure to the cardiac vegetations, were found in the obstructed arteries. It seems certain, that if vegetations are detached from the cardiac valves, they must be carried along the current of the circulation; and it seems necessary to examine the circumstances or reasons which render it probable that such vegetations ever become detached. The author considered that the cause of obstruction could not have been simple arteritis in the preceding cases, inasmuch as the supervention of the symptoms was almost

immediate. In all, the vegetations were probably the result of an endocarditis, and in three of them rheumatic symptoms were present during life. As to the reasons for supposing that such vegetations, when formed on the cardiac valves, might become detached, analogy might be taken, in the first place, from the spontaneous separation of adventitious structures in other parts of the body. Thus, cartilages and other bodies became detached in the interior of joints; polypi from mucous surfaces, and polypoid growths as described by Dr. Reid and Mr. Hodgkin, from the free surface of the peritonæum. In the heart are conditions which render the separation of vegetations much more probable than perhaps the detachment of polypoid growths in other parts of the body. 1st. The vegetations are often loosely attached, after death being easily removed with the handle of the scalpel. 2d. The valves to which they are adherent are parts constantly in motion. 3d. Currents of blood are ever rushing over them with considerable force. Exertion, or whatever increases the action of the heart, may cause detachment; and, when thus separated, they will be carried along, until, meeting with a vessel whose calibre is smaller than their bulk, they will become impacted. More than one result may follow such impaction; coagula may be formed from the blood around the obstruction; the artery may inflame where it is occluded, and this inflammation may involve the accompanying veins; lastly, the vegetations thus deposited may become disintegrated and pulpy, as was the case with the humeral artery in the second instance of the group just adverted to. The second cause of arterial obstruction was that in which recently formed coagula were projected from the heart into the general circulation. Fibrinous polypi had been found after death in the cavity of the heart, and records of such cases might be found in several works on 'Pathology.' They were specially likely to be formed when endocarditis was present, as their rough projections might be present on the internal cardiac surface, which would form a nucleus for fibrinous deposition, and a super-fibrinated condition of their blood would favour their formation. Were these two conditions present, there would be the chemical tendency to coagulation, and facilities of a mechanical kind for entangling the readily-deposited fibrin. Experiments, in which foreign bodies were projected into the cavity of the heart seemed to have established as a fact, that fibrin is deposited around bodies so projecting. M. Cruveilhier mentions a case detailed by M. Langier, where a needle passed quite through the cavity of the heart, and remained so imbedded. Gangrene of the lower extremities followed, and it was believed that fibrin which had coagulated around the needle in the cavity of the heart had become detached, and caused the existing obliteration in the arteries in the lower limbs. M. Legroux's case, of which an abstract appeared in the 'British and Foreign Medical Review,' favoured this view. The patient had suffered from rheumatic endocarditis, arterial obstruction suddenly supervened, and old fibrinous clots were found in the heart. Several arteries in the body were occluded. In another case, a puerperal patient of Dr. Macfarlane's, who had suffered from rheumatic endocarditis, and evidently had diseased aortic valves, arterial obstruction followed, and the patient died some time afterwards. The subclavian

artery which could only be examined) was plugged with a fibrinous clot, but no traces of vegetations were found. Thus it would seem, that fibrin deposited on valvular excrescences may be detached without separating the vegetations themselves. To illustrate the third cause, or that of local inflammation of an artery, in puerperal patients, obliterating its canal, two cases were mentioned as having occurred respectively in the practice of Drs. Duncan and Cowan. Dr. Duncan's patient came under his treatment while surgeon to the hospital. She had acute gangrene of both lower extremities, and had been confined only two weeks. After death, the aorta was found blocked by a firm fibrinous exudation, which descended along the iliac arteries, and in some situations was closely adherent to the arterial walls. The coats of the obstructed arteries were much thickened. The fourth cause of arterial obstruction in puerperal females was, a diseased condition of the blood, or morbid matters absorbed, and effecting changes in it. Phlebitis often occurred in puerperal patients, and in many of these cases pus must mix with the blood and pass into the circulation. Pus was believed to cause coagulation of the blood when introduced into the vessels,—at least in some circumstances; and cases were on record where the pulmonary arteries had been occluded in puerperal patients while suffering under uterine phlebitis. Two cases of this nature are recorded by M. Cruveilhier. It seemed not improbable but that the lobular pneumonias occurring in such patients might result from the occlusion of the artery supplying the pulmonary lobule; and the lymph deposits in the spleen, liver, and kidneys, may have a like origin. The last cause of puerperal arterial obstruction was, laceration of the internal coats of an artery. The members of the society were referred to an excellent paper on this section by Mr. Turner; and a case had since been published in the 'Provincial Medical and Surgical Journal' by Dr. Oke, of Southampton, as one of those to which Turner had drawn the notice of the profession. Dr. Oke's patient had uterine hæmorrhage, terminating in abortion. Three days after, her left arm had become cold and insensible, and the tips of the fingers discoloured. No pulsation could be felt in the limb. The action of the heart, and the respiration, were natural. The tips of the fingers became gangrenous, and dropped off, but the gangrene proceeded no further, and the arm recovered its natural plumpness. The patient is still alive, and no heart affection can be detected. The time would not permit a further detail of cases, but, before concluding, Dr. Simpson had a few remarks to make on the effects of arterial obstruction. The symptoms would, of course, vary according to the artery obstructed. Thus, in the fourth case, where the middle cerebral artery was obstructed, Dr. Burrows found sudden hemiplegia, followed by symptoms of ramollissement, in a young puerperal subject, and these, with the valvular disease, led to a correct diagnosis. When more is known of the subject, it may be found that other organs, which are principally supplied by one artery, have their functions suddenly arrested by the impaction of small vegetations in their canals. Sesta, Corvisart, and Stokes give instances where, in patients suffering from heart disease, one eye had become suddenly destroyed without apparent cause or explanation. Were these cases of arterial obstruction, where a small vegetation had

obliterated the ophthalmic artery, and thus cut off the greater supply of blood? Our knowledge on this subject seems as yet confined to arterial obstruction occurring in the extremities. It is possible that the arteries supplying other internal viscera may be occluded in a similar manner as the cerebral or ophthalmic, but as yet we are quite unacquainted with the symptoms of such lesions. In the extremities, besides fever and symptoms of endocardiac disease, we have, first, arrestment of pulse. As we are not in the habit of examining the arteries in the lower limbs, this may be overlooked; or, after ceasing for a time, the pulse may return to some extent by the collateral circulation, and this symptom may pass unnoticed. 2. Pain in the limb supplied by the occluded artery; and this in proportion as the vessel is perfectly or less obstructed. If the occlusion is sudden and complete, there may be at once paralysis of sensation and motion, as occurred after the celebrated operation in which Sir A. Cooper ligatured the aorta. Sometimes the pain may be slight, and a pricking sensation be present; but generally the pain is intense and excruciating. The sudden supervention of the pain, and its severe character, would at once raise a suspicion of arterial obstruction. The cause of the pain in these cases seems obscure. It has been ascribed to neuritis by some authors; but, in the second case mentioned, the nerves were not implicated in the inflammation. Again, by Mr. Tuffnell, it was ascribed, in aneurismal cases treated by compression, to distension and pressure on the nerves. Cruveilhier believed the nerves in the coats of the vessels becoming inflamed to cause the pain. In a case of aneurism lately injected with the perchloride of iron, the pain was instantaneous and intense; if the result of inflammation it could not have occurred so soon. When gangrene occurred, it seemed to be produced by the arterial supply being so far cut off as at once to destroy the vitality of the limb. After some remarks in apology for the crude and unfinished remarks he had presented to the society, Dr. Simpson concluded his paper.

In reply to questions by Dr. Gairdner, Dr. Simpson said, that in several of the cases he had mentioned, the symptoms of obstruction had supervened suddenly without symptoms of arteritis, and that after death small masses unattached to the walls of the vessel were found in the affected arteries. These masses were identical in appearance with the cardiac vegetations. The principal difference between the cases just described, and those of Dr. Turner was, that in the former no laceration or puckering of the vessel could be detected, while it was present in Dr. Turner's cases. Again, in the latter, no heart disease was recorded.

ART. 130.—*On the questionable utility of Chloroform in Midwifery.*
By Dr. ROBERT LEE, F.R.S.

(*Lancet*, Dec. 24, 1853.)

Dr. Lee's paper, which was brought before the Royal Medical and Chirurgical Society, consists of an account of seventeen cases of parturition, in which chloroform had been inhaled with pernicious effects.

In these seventeen cases the author traces a series of injurious consequences to the employment of chloroform during labour. Thus, in Cases 1 and 2, the contractions of the uterus were arrested by the chloroform, and delivery was completed by craniotomy. In Cases 3, 4, 5, 10, 14, 15, and 16, insanity and great disturbance of the brain followed its use. The necessity for delivery by the forceps was attributed to its employment in Cases 6, 8, 11, 12, and 13. Dangerous or fatal peritonitis or phlebitis ensued after the exhibition of chloroform in Cases 7, 8, 11, and 13. Epilepsy occurred in Case 14; and dangerous fits of syncope arose from its use in Case 17. The reports of friends had confided many more analogous cases, and public rumour swelled the list still further, but he was desirous of confining attention to those which came directly under his own observation. He thinks that a contemplation of the subtle action of this poison on the nervous system would have induced caution in its application to practice; but, on the contrary, the greatest levity had characterised its employment. Very soon after the discovery of its physiological effects, the author was astonished and confounded by the announcement of its application to midwifery; and it was not difficult for him to foresee that rashness in its application and use would lead to most deplorable results; and he regretted to find that in this he had not been mistaken. It was not wonderful that women doomed to bring forth their offspring in pain and sorrow should seek to escape from the troubles of our race by means of this treacherous gift of science; neither could we feel surprise that the instances of women who were saved from the grievous pains of child-bearing, without bad consequences, should have for a time reduced to silence those unwelcome monitors who pointed to the possible evils of this new agent; but it did seem strange to the author that, amidst so wide-spread an experience as now existed of the noxious and dangerous effects of chloroform, it should be necessary for him to assemble the proofs of the havoc it had made. The two most serious effects produced by chloroform on women in labour were, a languid and deficient contraction of the uterus, and a greater susceptibility to the risks that arise from inflammation and fever. With regard to the first, the direct testimony of his own senses convinced him that the action of chloroform did very manifestly slacken the uterine contractions, and in some cases had put a stop to them altogether. Of the second class of effects, the risks of the puerperal condition were much complicated; for to inflammation and fever must be added severe cerebral and nervous disorders. He has no doubt that the use of this noxious agent ought to be expelled from the practice of midwifery. In conclusion, the author observes that, though his opinions had been confirmed by conversations with the most discreet and experienced practitioners, yet he entertained grave doubts of the result of the present appeal to the good sense of the profession, when he considered the arts used to propagate a faith in this practice. It had become almost an extra-professional question. There was a systematic concealment of truth by physicians; appeals were made to the natural timidity of woman, and the most fallacious promises of perfect safety were boldly held out. Conceited or ignorant women of fashion made a pastime of this as of other

quackeries, and the cause of science and humanity was placed in the hands of the most presumptuous and frivolous part of the community, while young and inexperienced mothers were decoyed to their destruction. If he had helped to rescue the medical profession from the dominion of a great and dangerous error, and had placed some restraint on an ignominious and disgraceful practice, the author would rest satisfied that this essay had not been written in vain.

Various remarks having been made by different Fellows of the Society after the reading of the paper, Dr. Lee proceeded to reply to them.

He contended that there was no resemblance between a surgical operation and the process of natural labour. In natural labour, if the pains are strong and regular, women, in a vast majority of cases, are exposed to little danger, require no artificial assistance, and the function is only disturbed by interference. Mr. Fergusson had just stated that one of the principal benefits derived from chloroform in surgery is the great amount of muscular relaxation which it produces during operations. In midwifery this great amount of muscular relaxation would produce the most mischievous results; it would, in fact, induce partial or complete paralysis of the uterus, as in the case just related by Dr. Merriman, and in several of the cases detailed in the paper read that evening. A striking and fatal example of the same kind had occurred since the paper was presented to the Society. Only three drachms were used in the first stage of labour, but no proper contractions followed the expulsion of the fœtus, and the uterus remained uncontracted till the death of the patient some days after in convulsions. There were no symptoms of puerperal fever or local inflammation. "The uterus did not go down to the usual size, so much so as to give rise to the suspicion that there was another child, or some ovarian disease, but there was neither. Dr. Snow had related to the Society a case of arm presentation, where the uterus was completely paralysed by the chloroform he exhibited, that Mr. French turned with great ease, the contractions being so violent, that he had contemplated eviscerating the fœtus. Yet Dr. Snow affected to doubt whether chloroform and narcotic poisons impair the action of the uterus, and had expressed an opinion that in the cases he (Dr. Lee) had related in the paper, the sudden cessation of the uterine contractions after its use could not be referred to it. It was impossible to reconcile such contradictions, but they admitted of a ready explanation. He lately perused a letter written by a fashionable lady soon after her confinement, to a physician, which contained the following passage:—" *Chloroforme à la reine*, just a few drops on a handkerchief from time to time for the last hour; I found it a most indescribable alleviation, and that though never insensible." This was a correct account, he believed, of the way in which chloroform was administered by Dr. Snow in natural labour, and it would account very satisfactorily for his assertion that the uterine contractions were little, if at all, impaired by it. Fifteen drops sprinkled upon a handkerchief, and the lady now and then permitted to sniff a little of the vapour from the corner in the last hour of labour. If he (Dr. Lee) might be allowed in plain language to characterise this proceeding, he would say that

the whole was a mere pretence, and calculated only to deceive the weak, ignorant, and credulous. The anæsthesia from chloroform, of which Mr. Fergusson had spoken, and which was usually, as he understood, the result in midwifery, was quite another affair from the *chloroforme à la reine* of Dr. Snow. Last week he saw a surgical operation performed upon a young woman, to whom six drachms had been administered. Her pupils were widely dilated, the breathing stertorous; there was foaming at the mouth; the pulse was rapid and feeble, and there was convulsive twitchings of the muscles of the extremities. No man in his senses would venture to reduce a woman to such a frightful condition in natural labour. In surgery it might be considered justifiable, but in midwifery it was wholly unjustifiable. Dr. Gream had stated that two ounces of chloroform might be given with safety in cases of natural labour; and though he admitted that it decidedly had the effect of diminishing the strength and regularity of the uterine contractions, yet still its influence might be so managed as to prevent the progress of labour being interfered with. If Dr. Gream would stand up in the face of the Society and state how chloroform could be so managed, he (Dr. Lee) would immediately sit down. (Dr. Gream here expressed his dissent; but Dr. Lee affirmed that this statement had been published by Dr. Gream in his pamphlet.) In forceps cases (continued Dr. Lee), and in all the great operations of midwifery, chloroform could produce nothing but mischief; for in all these cases consciousness was the great safeguard of the patient. No forceps cases—and he had had as many as any person in that Society—were so unmanageable as those in which the consciousness was lost from puerperal convulsions, where the patient could not be held in the same position for any length of time. In uterine hæmorrhage, and in all cases of protracted labour, from whatever cause, nothing but mischief could result from the use of that narcotic poison. The exhibition of chloroform in labour he held to be contrary to the sound principles of physiology and morality. “In sorrow shalt thou bring forth children,” was an established law of Nature—an ordinance of the Almighty, as stated in the Bible, and it was in vain to attempt to abrogate that law. There could not be a doubt that it was a most unnatural practice to destroy the consciousness of women during labour, the pains and sorrows of which exerted a most powerful and salutary influence upon their religious and moral character, and upon all their future relations in life. But he might put aside all these physiological and moral considerations, and rest his objection to the use of chloroform in labour upon the danger of introducing a subtle narcotic poison into the system at such a time. When only one drachm was given, who could be certain that it should not instantaneously be followed by the death of the person to whom it was administered? Upon this point the whole questions might be allowed to hinge.

(B.) CONCERNING THE DISEASES OF WOMEN.

ART. 131.—*Case of Phlegmosia Dolens in a virgin.*
By Dr. M'CLINTOCK.

(Dublin Quarterly Jour. of Medicine, Nov., 1853.)

This case differs from the generality of such cases in being purely idiopathic; the patient having had no attack of metritis, of suppression of the menses, or of any other disease of the uterus.

CASE.—A young lady, æt. 18, recently suffering from scanty menstruation, with a tendency to chlorosis. The attack appears to have been caused by standing for some time upon damp grass. Treatment was delayed for three days, at the end of which time the symptoms were found fully developed. Leeches were then applied over the femoral vessels. The entire limb was constantly stuped, and rest and low diet were enjoined. The acute symptoms subsided in a week. One relapse took place, but the patient eventually got well, many months, however, being occupied in the process.

ART. 132.—*Case of Retention of the Menses simulating pregnancy.*
By Dr. HECTOR PELTIER, Physician to the Hôtel Dieu at Montreal.

(Montreal Monthly Journal, Jan., 1854.)

Dr. Peltier relates this case as follows:—

“CASE.—A young lady, æt. 20, after exposure to cold and getting her feet wet, whilst her menses were upon her, was suddenly seized with rigors, followed by a little fever and arrest of the discharge. She, however, did not pay attention to this. She remained three months without menstruating, when I was called in to set all right. Now as the period for the customary appearance had elapsed, I waited until the next monthly period.

“Since the age of fourteen, when menstruation began, she never experienced anything of the kind, though she said (and unfortunately many young girls are too confident on this point) that she had often got her feet wet without the least inconvenience supervening. At this time, the fourth month, the abdomen was somewhat voluminous, in fact, looking very much as it does at the fourth month of pregnancy. The young girl, who before the stoppage was inclined to become stout, lost flesh, as also happens in similar periods of pregnancy.

“My confidence in the education and moral character of the young lady, kept me, through false delicacy, from asking any question or making any examination, which might have given me, probably, a decided opinion of the case.

“Under these circumstances, I recommended simple emmenagogues, such as absinthe, and four pills of myrrh, aloes, and assafœtida, two in the morning and two at bedtime, for three consecutive days. These had no more effect than they would have had in an old woman past 50. Not wishing to continue any harsh treatment, I waited until the fifth month. At this period, the mother, though full of confidence in her daughter, began to fear that something wrong might have happened. The abdomen had become larger, and gave all the outward appearance of pregnancy. This time I gave no

remedy, leaving nature to her course, and assured the mother that there was no pregnancy.

"Between the fifth and sixth months there was bleeding from the nose. This circumstance confirmed me a little more in my belief of simple suppression of menses. I had not yet given any attention to what might be the case, if not that but pregnancy.

"At the sixth monthly period I repeated the same, emmenagogues, and advised driving out instead of walking, as heretofore. All this was of no avail. The mother was very uneasy on account of remarks frequently made as to her daughter's appearance. As she could not go out walking or driving in town without her appearance calling suspicion, I recommended then the country air, expecting that there, by plenty of exercise, menstruation might reappear. At the seventh monthly period I did nothing, and left all to nature.

"There was no change during these seven months worthy of attention, except the volume of the abdomen continually increasing, the bleeding from the nose, and occasional pains in the back and sick stomach.

"The eighth month came and all in same state.

"On the 8th of October last, in the afternoon, I was sent for hurriedly. The mother was in an awful excitement—the father had left the house, after having given his malediction to his daughter. The girl herself was very anxious, but was calm under the trial. As I entered the room, the sofa and floor underneath were covered with what appeared a viscid fluid, like dissolved gum arabic, and also a very great quantity of clotted blood. She was pulseless, in an extremely weak state. My anxiety was exceedingly great. I had no time to lose; therefore I introduced my hand in the vagina, but could not succeed in entering even the finger through the os tincæ. The blood, through the small aperture, was continually flowing, and the abdomen became quite flat. I remained for two hours near the patient, and during that time she rallied so much that she considered herself as well as ever. To the touch, the neck of the uterus was extremely hardened, and retaining nearly the same shape as if the uterus had not been expanded. The after-treatment of such a perplexing case was very simple. I ordered a nutritious diet twenty-four hours after this occurrence, injections of cold linseed tea, per vaginam, to relieve the induration of the neck of the uterus. It was, indeed, relieved, and the flow of blood continued for eighteen days afterwards. Since then her menses have reappeared regularly, and her health is perfect.

"This flood took place eight months and a half from the last appearance of the menses."

ART. 133.—*Ergot of Rye in chronic Leucorrhœa.*

By M. LACOWSKI.

(*Rév. Théor. des Méd.*, Oct. 15, 1853; *Gaz. Hébd.*, Dec. 2, 1853.)

M. Lacowski recommends very strongly the use of ergot in cases of chronic leucorrhœa, and says that by its means (aided by quinine) he has cured many cases which had resisted other treatment, the time occupied in the cure varying from ten to twenty days. His formula is—

| | | | | | | |
|------------------|---|---|---|---|---|---------------|
| Powdered Ergot | . | . | . | . | . | 4 grammes, |
| Powdered Saffron | . | . | . | . | . | 5·50 centigr. |
| Powdered Vanilla | . | . | . | . | . | 25 centigr. |
| Powdered Camphor | . | . | . | . | . | 25 centigr. |

This quantity he divides into twenty powders, and gives one night and morning in decoction of cinchona.

ART. 134.—*On internal Metritis and Uterine Catarrh.*

By Dr. TILT.

(*Medical Times and Gazette*, Dec. 3, 1853.)

The object of this paper is to draw attention to the more obscure forms of uterine disease which have their seat in the mucous membrane which lines the neck and the body of the womb. The author describes subacute inflammation of the mucous membrane of the neck of the womb, and contends that to that disease alone the term uterine catarrh should be applied; he also shows that, by giving it to acute inflammation of the neck of the womb, the French pathologists had been led to use uterine injections into the cavity of the womb, to the danger of the patient's life, and for a complaint amenable to much milder treatment. Subacute inflammation of the mucous membrane lining the womb is said to be characterised by the usual uterine pains and hysterical phenomena, and by inconsiderable swelling, if any, of the neck of the womb, which was sometimes only painful on pressure laterally applied, the discharge being rarely muco-purulent, generally mucous, and sometimes sanious; and several cases are detailed in which this occurred for years. In addition to the known means of treatment, Dr. Tilt strongly advocates the topical application of tincture of iodine to the inner and outer surface of the womb—the dressing to be repeated every four or five days. Acute inflammation of the mucous membrane of the body of the womb cannot be distinguished from the inflammatory affections of the whole organ, but in some cases of menorrhagia this mucous membrane was alone affected, and threw off a false membrane different from the decidual membranes which have been hitherto described. In proof of this assertion a morbid specimen was exhibited, taken from a young woman who died of menorrhagia under Dr. Watson. Dr. Tilt thinks that future researches will show that there was a chronic inflammation of the body of the womb going on in most of those cases of dysmenorrhœa which were accompanied by exfoliation of the mucous membrane of the womb. He suggests this as a matter of inquiry, and speaks in praise of hypogastric issues in this tedious complaint. A form of internal metritis is then described, to which he gives the name of hemorrhagia, to mark the symptom by which it was habitually accompanied. In illustration, a case is related in which the treatment usually employed was useless to arrest the disease, astringent injections, cauterisation of the neck of the womb with the nitrate of silver, as well as internal remedies, being without avail; whereas, when large doses of morphine, two grains per diem, were given to allay pain and calm hysterical symptoms, the sanguineous and semi-purulent discharges were checked, and the patient recovered. Another variety of internal metritis is described under the name of “fibro-plastic,” because it was characterised by the growth of fibro-plastic vegetations on the surface of the womb—these vegetations giving rise to san-

guineous discharges and uterine symptoms, developed to an unusual degree of severity. With regard to the local treatment of the various forms of internal metritis, the author deprecates the use of uterine injections, on account of the uncertainty of their action, either in a similar set of cases or even in the same patient—admitting, however, that they might, perhaps, be useful in some cases of the fibro-plastic variety. In that disease he recommends the careful introduction of Recamier's curette, a uterine sound a little larger than Dr. Simpson's, somewhat curved at its extremity, and hollowed out under its curvature, so as to remove the vegetation by gentle abrasion. Dr. Tilt has also found this instrument very useful in removing portions of retained placenta, the presence of which are indicated long after parturition, by flooding, by an enlarged body of the womb, and by uterine symptoms. He also mentions sundry improvements in the construction of this instrument, which he had confided to the known dexterity of Mr. Coxeter. Dr. Tilt next brings forward another plan of treatment, which he had found very successful in one case of the fibro-plastic variety, which was, after the application of the speculum, to introduce into the cavity of the body of the womb Dr. Simpson's uterine sound, carefully surrounded by cotton-wool, saturated with tincture of iodine. The vegetations came away with a sero-purulent discharge after a few days; the operation was again repeated, and the patient was in a short time relieved of a sero-sanguinolent discharge which had lasted for years, and her health was restored.

In conclusion, the author insists on the very numerous instances of disease in which the tincture of iodine had been with perfect impunity introduced into the tissues of the body, and from that, and still more from the results of known practice, he inferred that tincture of iodine and iodide of iron were the topical applications from which practitioners would derive the greatest assistance in the treatment of uterine diseases.

ART. 135.—*On the diagnosis and treatment of some of the diseases included under the term 'Prolapsus Uteri.'* By DR. SNOW BECK, F.R.S.

(*Lancet*, April 8, 1854.)

The division into "perfect prolapsus," and "imperfect prolapsus," is adopted as being best suited to the short limits of the paper. On the subject of perfect prolapsus Dr. Beck gives the definitions and descriptions of some of the most esteemed authors, to show the disease meant by the term; thus:—"A tumour, often very large, hanging out between the thighs, and the vagina turned inside out, constitutes the external covering. In the sac thus formed, especially if of long standing and large, there is contained the bladder, rectum, and some portion of the small intestines, the mesentery being stretched, and the omentum occupying any vacant space." Could such a tumour fairly be called a prolapsus of the uterus?—and, in reply, the author stated he had examined the physical characters of a similar protusion, which were found to answer to those of large hernial protrusions in other parts of the abdomen. He then puts and discusses the question as

to the name which ought to be applied to such a tumour occurring in any other part of the walls of the abdomen, which led him to the conclusion that the diseases termed prolapsus of the uterus were in fact hernial protrusions, occurring through the vaginal outlet of the pelvis, the uterus being a portion only of the contents of the sac. This position is further strengthened by pointing out that the annoyance arising from these protrusions arose only from the mechanical impediment to progression, which rendered their analogy to hernia complete. On considering the subject of imperfect prolapsus, he again quotes the symptoms given by the same authors, to show the diseases implied by the term. The chief symptoms are found to be a sensation of fulness in the pelvis, weight, and bearing down, dragging from the loins and umbilicus, more or less pain in the back, extending round the groin, great distress from attempting to stand or walk, which was much worse in the evening and in the morning, and more or less vaginal discharge; these symptoms being attended with much constitutional disturbance, and ending in "a broken constitution." These symptoms differed so essentially from those attributed to perfect prolapsus, that they could not be considered to apply to the same diseases, differing only in the degree of the displacement. On further analysis the symptoms of imperfect prolapsus are shown to arise chiefly from those inflammations of the vagina, which had been much overlooked in treating of the diseases of females. The author then draws the practical deductions—(a), that, contrary to the received opinions, displacements of the healthy uterus are not followed by any notable inconvenience to the female; (b), that when symptoms arise, they are the consequence of some inflammatory affections of the uterine organs, which constitute the essential disease, the displacement being only an accidental accompaniment; (c), that the diseases termed perfect prolapsus were really hernial protrusions, occurring through the vaginal outlet; and (d), that those included in the denomination, imperfect prolapsus, were inflammatory affections of the uterine organs, and chiefly of the vagina. These distinctions are pointed out as very important in regard to the treatment, inasmuch as the hernial protrusions (perfect prolapsus) required, as in other similar cases, mechanical contrivances for their support; whilst in the inflammatory affections the same mechanical means were actually injurious, the proper treatment being that calculated to reduce the inflammation. The various means employed in giving support to those hernial protrusions are glanced at, their principles of action pointed out, as well as the objections to each. The inefficiency of all kinds of support introduced into the vagina is shown to be practically acknowledged by their being very seldom employed in the present day; whilst the proper means of supporting an hernial protrusion (complete prolapsus) is considered to be by pads properly applied to the perinæum, and efficiently retained there. Great stress was laid upon these pads being adapted to each individual case, as in the examples of hernia occurring in other situations; for, from a want of a similar precaution, this method of treatment had fallen into considerable disrepute. The various operations recommended for the relief of these affections were further considered as inapplicable, or only of

benefit in exceptional cases. In the treatment of these inflammatory affections, included under the term incomplete prolapsus, all mechanical interference was pointed out as being injurious, whilst the proper means of relief consisted in removing the inflammation present, by general or local remedies, as each case might require.

ART. 136.—*On the Diminution and Disappearance of Uterine Tumours.*

By Dr. ASHWELL, ex-Obstetric Physician to Guy's Hospital.

(*Lancet*, Feb. 18, 1854.)

In this paper Dr. Ashwell relates several cases for the purpose of showing the occasional diminution and disappearance of uterine tumours, without any apparent breaking down of their structure. He does this in order to encourage patience and perseverance in the treatment, even of doubtful cases, for he inclines to believe that scirrhus itself may occasionally have undergone this change.

We select two of the cases given, merely stating, before relating them, that in all of them, treatment (especially by iodine, in tincture and ointment) had been long pursued; that nutritious, unstimulating diet, mild malt liquor, and light wines were allowed; that resort was only occasionally had to *leeching* near, not over, the seat of pain, and still more rarely to cupping on the loins; that *purgatives* and *aperients* were exhibited only when it was evident that the bowels required to be unloaded; that *setons* over the site of the tumour produced, in several instances, marked benefit; and further, that in all the numerous cases which have fallen under his notice, the *recumbent posture*, and, as far as possible, the avoidance of sexual intercourse, but particularly the former, have been *strictly* enjoined.

“CASE 1.—April 22d, 1843.—Miss —, æt. 48, resides near Hounslow, and has formerly been under the care of Dr. Blundell and her own medical attendant. First perceived a tumour about the size of a small melon three years ago. It was then low down in the hypogastric region. Her health did not then suffer, but two years since menstruation became profuse, and there was also much uterine bleeding. Iodine was used, and various means were employed to arrest the hæmorrhages.

“Now the tumour is as large as a moderate-sized adult head, lobulated, and in several of its more prominent portions of *extreme* hardness. It reaches nearly as high as the umbilicus, and protrudes the abdominal integuments, giving to the patient the appearance of a pregnancy of the fifth or sixth month. Has frequent cutting pains in and about the tumour, and is greatly inconvenienced by the weight, pressure, and tension. The growth is not tender to the touch, not even in those portions where there is constant pain. Walking is difficult. Internally the vagina is capacious, and there is much mucous discharge. The os uteri is patulous; and its lips, together with the cervix, are soft and swollen, but without any spots of induration. The most alarming symptom is the hæmorrhage: which, without any assignable cause, is sometimes so excessive as to induce long-continued faintness. Cold applications are often employed for several days before the bleedings are arrested. She has lost flesh, and is very weak; her countenance is anxious and very

pallid; pulse 110; bowels constipated; appetite bad; she is restless and irritable, and often extremely depressed. Tincture of iodine, six minims, three times a day, in a little sugared water, and the iodine ointment every night over the tumour, were prescribed.

"For several years I watched this patient, she being often in extreme danger from the bleedings. The use of the iodine was frequently suspended, and various remedies, rendered necessary by exhaustion, were employed in its stead. In 1847, Miss —, being then fifty-two years of age, menstruation ceased, and at that period the hæmorrhages became far less frequent, and the tumour was manifestly less.

"Nov. 22d, 1849.—Miss — called upon me, saying that the bleedings had returned very rarely, and never to great extent. She had regained her flesh, and was in very tolerable health. The tumour was not larger than an orange. By examination 'per vaginam,' I could discover scarcely any hardness of the cervix.

"May 9th, 1851.—I find the following entry in my case-book:—'To-day Miss — calls to consult me about some slight derangement of her general health. I can, externally, scarcely make out any tumour, and as to the os and cervix, there is scarcely any appreciable induration.'

"March 22d, 1852.—Again Miss — comes to me on account of slight indisposition. The tumour cannot be felt externally, and it is only by pressing the fingers deep down into the pelvis, behind the pubis, that it is at all perceptible. There has not been any vaginal discharge for several years.

"I may, in concluding the history of this case, remark, that I have very recently seen Miss —, and, but for indigestion, she is in good health. There is just as much of the tumour to be felt as at the last examination.

"CASE 2.—Mrs. B—, æt. 48. This patient (then Rose E—) was under my care in Petersham Ward, Guy's Hospital, for several months up to May 15th, 1837. She was admitted when suffering considerable pain from a large *hard* uterine tumour, about the size of a child's head. I fully recollect the progress of the case, as I visited her from time to time, in going round the ward; but, unfortunately, the book containing the earlier history has been lost or mislaid. The continuation of the history, of the dates from the hospital-book, is as follows:—

"June 17th, 1837.—She left the hospital the second week in May, having experienced very great relief, since which time she has been an out-patient, and has been taking six minims of the tincture of iodine in an ounce of water, three times a day. She is at present in better health than she has been for the last two years; catamenia regular. She is unwell at present; feels herself sensibly diminished in size since her admission, and complains of no pain whatever. She is to continue the use of the iodine ointment.'

"For several months after June, 1837, I occasionally saw this patient, the tumour continuing slowly to diminish. From that time, I lost sight of her till May, 1853, when she called to consult me about some affection of her lungs, attended with cough. On examination externally, *no tumour was perceptible*, even when the fingers were pressed deeply down behind the pubis, and the cervix uteri is quite healthy.

"Mrs. B— married in November, 1837, the tumour then being as large as a small melon. She has been pregnant only once, and aborted at two months; this was very soon after marriage. She has ceased to menstruate two years. The tumour decreased rather more rapidly for two or three years after her marriage, and she assures me that for the last four years it has been as imperceptible as it is at present."

ART. 137.—*A new instrument for Uterine Hæmorrhage.*
By MR. DE BERDT HOVELL, of Clapton.

(*Medical Times and Gazette*, Jan. 8 and Feb. 12, 1854.)

This instrument is recommended as a means of affording very valuable assistance in the treatment of that form of uterine hæmorrhage which occurs after labour from relaxation or inertia of the uterus. It is extremely simple; it is applied instantaneously without disturbing the patient in the least; it keeps its position, without tending to slip up towards the ribs; it does not tend to produce prolapsus of the uterus; and it does not interfere with the use of cold affusion, or of any other means which may be deemed necessary. Properly made it acts very like the hand; and then it has this advantage over the hand, that it does not tire. Altogether, we consider the invention to be one of considerable practical importance.

This instrument consists (1) of an oval abdominal pad, slightly concave, $6\frac{1}{2}$ inches by $4\frac{1}{2}$ inches, which is applied transversely in place of the hand, immediately above the pubes; (2), of a circular counter-pad, $4\frac{1}{2}$ inches in diameter, which is applied upon the sacrum; and (3), of a steel-spring of $7\frac{1}{2}$ lbs. pressure, which passes round the ilium and connects the pad and the counter-pad. A larger pad and a stronger spring may be used, and the pressure of the spring may be adjusted so as to be increased, if necessary, by adapting an Arnott's regulator to the spring. For the sake of portability the pads are connected to the spring by thumb-screws, so as to admit of their removal.

The instrument is applied in a moment, and there is no necessity that the patient should stir from the position in which she is placed during confinement; indeed, all that is necessary is to separate the pads and slip them over the ilium to their respective positions, and then leave the spring to do its work.

Speaking of the class of cases in which this instrument may be wanted, Mr. Hovell writes:—"It is unnecessary to enter upon any discussion of a class of cases familiar to every practitioner in midwifery; but, for the sake of clearly defining it, I will quote the words of Dr. Blundell on the subject:—"Some women there are, from idiosyncrasy, peculiarly liable to bleeding, and very undesirable patients they are, the probability being, that they will ultimately die under your hands. Hence it becomes a question in cases of after-flooding, whether we can use any means of prevention."

"Such a patient it fell to my lot to attend in four out of nine confinements. Her labours were rapid at the last, the placenta slow in separating,—on one occasion, I was informed, four hours and a half, then normally; from three to four hours after the separation of the placenta, the uterus remained in a lax, flabby state, occasionally contracting, and expelling its accumulated contents, giving rise to considerable hæmorrhage, attended with exhaustion, syncope, &c. Under these circumstances, pressure with the hand, cold and ergot were employed successfully; but not without the cost of time, fatigue, and anxiety.

"In the last confinement of the same patient, the labour was of the

usual quickness, the child large. Immediately after the separation of the placenta, I applied the 'uterine truss,' and kept it on two hours, until the accession of after pains. During this time the uterus remained very fairly contracted, never exceeding the size of an ordinary melon; only one discharge of blood took place, and that with an audible gush, about three quarters of an hour after the application, showing the contracted state of the uterus; altogether, the amount of hæmorrhage was considerably less than usual, and the patient, in the words of her friends, 'never did so well.'

"I have tried the truss in several cases, both of relaxation from idiosyncrasy, and inertia after protracted labour. I have kept it applied three and four hours at a time, and I have never known hæmorrhage to occur to any extent during its application, nor have I found the least ill effect follow its use. It often produces an expression of comfort on the part of the patient, which continues until it is time to remove it."

ART. 138.—*Two cases of Partial Chorea occurring during Pregnancy.*
By Dr. J. M. DUNCAN, Physician-Accoucheur to the Royal Dispensary, Edinburgh.

(*Edinburgh Medical and Surgical Journal*, Jan., 1854.)

These cases are interesting, as showing the real state of the system in chorea, and the circumstances inducing this malady. "In both there was a distinct asthenic state of the system, characterised by pallor of the surface, weakness of pulse, dryness of skin, and other unmistakeable signs of general bad health; and in one the previous occurrence of chorea formed a strong predisposition." In our opinion the immediate cause of the symptoms was the pregnancy—was, that is to say, the exhaustion caused by the growth of the child in a mother already so much enfeebled as to be unable to supply the materials of her child's growth without impoverishing her own system.

Mrs. H. was first affected with chorea when she was 16 years of age. Menstruation did not commence at this time, but was delayed till she was 18. The motions began in a very slight form, affecting first the ankles only, but soon the whole legs and also the hands and fore-arms. They were always much aggravated during summer, and continued more or less severe till about the beginning of 1850, when they were either entirely absent or so little troublesome as not to attract her attention. In the course of 1850 she was married, at the age of 32 years. After this she continued in very good health till about the middle period of her first pregnancy, which ended favorably in the birth of a male child in July, 1851. She had passed through the first half of the pregnancy in good health, but after that she began to be troubled with the choreic motions of the entire lower limbs, and chiefly, as on former occasions, of that of the left side. The movements were described as very annoying, only at night, and chiefly on lying down in bed, when they continued so long as to deprive her of much sleep. When the motions were worst in the limbs, there were occasionally also some affecting the hands, the fore-arms being still. The movements occurred only in the evening and at night, unless she sat in one position for a long time, as in church, when they sometimes commenced.

"The motions had been very troublesome for about six weeks before I was consulted. There was no other complaint. The morning sickness was only occasional. Her appearance was that of a delicate dyspeptic female; the skin was pallid, dry, and harsh; the tongue whitish, and deeply fissured in all directions; the bowels were regular, and the urine natural. I ordered the use of large doses of carbonate of iron (ten grains) thrice daily, and a moderate dose of laudanum to be taken at bedtime; also the use of a full diet, with good beer. After this plan of treatment had been continued for some days, she was generally able to get to sleep in a short time after going to bed, without the laudanum. The iron and diet were persevered in till within a few days of her confinement; but for nearly a month before this, the motions had entirely disappeared. Her confinement was natural; only, during the inhalation of chloroform, the choreic movements were reproduced in a troublesome way. The recovery was not unfavorable, except that an abscess formed in one mamma. She nursed her child. In the end of 1852 she was again confined under favorable circumstances; and since the attack in the first pregnancy she has not had any motions worth mentioning.

"Mrs. R., a lady of middle age, was travelling in Scotland during this summer. She was pregnant, and was gradually becoming worse and worse in general health, from symptoms which she connected with her being in that condition. In consequence she came to Edinburgh on her way home to England. Mrs. R. has generally enjoyed good health, and never has had chorea—is the mother of several children, the last only of which was still-born. She is now in the sixth month of pregnancy—has the look of a woman of originally good constitution, but is at present thin and of unhealthy appearance. Her pulse varies in frequency, is never rapid, but weak; the skin dry and scurfy; she complains of burning heat in hands and feet—tongue not foul—suffers greatly from vomiting after every meal—no derangement of the heart's action, or of the function of the kidneys, can be discovered. There is a copious muco-purulent discharge from the vagina, which is much softened and dilated, and the cervix uteri is in a swollen and abraded condition. Late in the evening involuntary movements of the lower limbs come on, causing great annoyance, and continuing till she goes to bed. Generally she falls into a short sleep, which is, however, soon interrupted, and then the motions recommence and continue for hours till she again falls asleep. On awakening, the choreic movements are again entirely absent till near evening.

"The treatment pursued in this case was the same as that described in the former, only in addition the cervix uteri was twice cauterised with nitrate of silver, with an interval of three days between the operations, and an astringent lotion of decoction of oak bark with borax was injected to the amount of three ounces morning and evening. By these means the leucorrhœa was entirely arrested. For the irritability of stomach a belladonna plaster was applied over the epigastrium, and was followed by great improvement. In about a fortnight the choreic movements disappeared, and my patient left Edinburgh greatly improved in health.

"The state of albuminuria, which has been shown to be intimately connected with some of the most important nervous affections of pregnancy and parturition, did not exist in the two preceding cases. Neither presented any of the signs of disease of the heart, nor had either of them ever suffered from rheumatism. They were both in the better classes of society, and were therefore well fed and cared for, and both were subject only to favorable psychical influences."

ART. 139.—*On some Diseases of the Rectum in Women, resulting from certain conditions of the Uterus.* By Mr. J. B. BROWN.

(*Lancet*, Feb. 25, 1854.)

No author appears to have paid special attention to certain exciting or predisposing causes, which induce several of the morbid conditions of the rectum which are met with in females. Mr. Samuel Cooper, Mr. Miller, Drs. Clarke, Blundell, Ramsbotham, Tyler Smith, and others, speak of an impregnated uterus pressing on the bowels as one of the causes of constipation and stricture; but as no one seems to dwell on the fact, that it is not necessary to have an impregnated uterus, inasmuch as the same thing may result from uterine disease. All authors, however, notice that diseases of the rectum are more common in females than in males. Mr. Brown proposed to inquire into the cause of this statistical fact, and said that he should endeavour to show that it is attributable to an uterine origin, and that the female rectum may suffer either from mechanical interference with its functions, from the pressure of an enlarged uterus, or from derangement of the circulation in that organ, inducing a corresponding disturbance in the circulation in the rectum. Frequently, indeed, it cannot be doubted that both of the causes have been in operation in the production of the disease in the lower bowel. Enlargement of the uterus from any cause—whether from the most common and natural one, pregnancy, or from retroversion, hypertrophy, inflammation, distension, or imperfect contraction after labour, fibrous or scirrhus tumour, polypus, hydatids, or from any other disease—alike tends to produce the same result in the bowel; and when the subject is fairly considered, it will become self-evident that the uterine and intestinal affections are in these cases related to each other, as cause and effect; and that, bearing this in mind, we may in many cases the more surely and quickly apply our remedies, and look with confidence for a favorable issue; whereas if the uterine origin of the disease is not suspected, we may treat a woman affected secondarily with constipation, piles, intestinal irritation of a dysenteric character, or other allied disorders by therapeutical agents, directed to the bowel as the primary seat of the disease, and yet the patient shall derive no benefit from any of them. Few surgeons, indeed, can fail to recollect instances in which this kind of treatment has disappointed them, and I hope to be able to show the reason why it has failed. These affections of the rectum may arise, as I am certain they often do, from an enlarged uterus, and that in two ways: firstly, by dragging on the lateral ligaments and elongating them, it falls down under the promontory of the sacrum, and presses on the bowel, interfering with its muscular action, irritating its lining mucous coat, and deranging the circulation in its blood-vessels; and secondly, any hyperæmic disturbance in the uterine circulation increases the force of the circulation in the hæmorrhoidal vessels by establishing a determination of blood to them. Thus, by reflecting on the anatomy of the parts, it will be easily understood why and how diseases of the rectum, such as hæmorrhoids, prolapsus, fissure, stricture, fistula, as well as disordered functions of the bowel,

as constipation, dysenteric irritation, &c., do sometimes result directly either from the mechanical pressure of an enlarged uterus, or simply from the derangement of the hæmorrhoidal circulation resulting from uterine disease. It is obvious that in the treatment of these various affections so arising, unless the attention of the practitioner is directed to the uterine origin of the disease, no permanent benefit can possibly result. Therefore, when any of these affections occur in females, it is necessary to inquire into the condition of the uterus, which will often at once explain the cause and indicate the treatment. Mr. Brown then proceeds to demonstrate these remarks by cases. He observes that the hæmorrhoidal veins suffer more from pressure than the arteries, because the coats of a vein are thin, and capable of great distension, and not resilient; whereas the artery is smaller, firm, elastic, but very resilient, and, the *vis à tergo* being greater, the circulation of the blood is less liable to interruption. Therefore, as might be expected, the mischief is greater in the veins than in the arteries. Hence we find that the blood often coagulates in the veins, and forms a semi-solid tumour, and the cellular tissue around becomes thickened, and the mucous membrane covering them becomes excessively vascular and sensitive. Mr. Brown observes that he alludes here entirely to internal hæmorrhoids. He then relates cases of hæmorrhoids, prolapsus ani, fissure of the rectum, constipation, fistula in ano, in all of which the disease had been found to have an uterine origin. The uterus was treated first, and the result was in every instance successful.

ART. 140.—*On a new Pessary.* By Dr. CHURCHILL.

(*Dublin Quarterly Journal of Medicine*, Feb., 1854.)

Dr. Churchill proposes to keep the uterus in position by keeping the posterior wall of the vagina upon the stretch by means of an elongated gutta percha ring, the upper curve of which fits behind the os uteri, and the lower rests upon the upper surface of the anterior edge of the perinæum. This elongated ring is curved so as to fit the curve of the posterior wall of the vagina.

ART. 141.—*On the Galvanic Cautery in the treatment of uterine disease.*
By Mr. ELLIS.

(*Lancet*, Nov. 26, 1853.)

In a paper recently read before the Western Medical and Surgical Society of London, Mr. Ellis begins by stating, that while the older surgeons had considered the actual cautery as a highly valuable remedy in many cases of long-standing disease, the moderns had relinquished it for the more painful and less manageable potential cautery. He remarked that the actual cautery had seldom been applied to the uterus *in situ*, until M. Jobert had recommended it in chronic disease of that organ. He also alluded to the researches of Mr. Marshall, who,

in his investigations on 'Electric Heat in Surgery,' appears to have been the first who corroborated the views of the ancients respecting the remedial agency of the actual cautery. This gentleman used only a heated wire, which necessarily acted upon a small surface, and was consequently inefficient. The experiments of the author soon led him to adopt a better method, by which he was enabled to concentrate the heat evolved over a considerable surface—an important element in cauterization by electric heat. The instrument he employed was a good-sized silver catheter, straightened out, with the end cut off, which formed the body of the instrument. It was then slit open at the upper end and broached, so as to form a socket for the porcelain cauterizer, and also to allow the internal wires to pass out. Within the catheter are placed the two conducting wires, insulated, they being at one end connected with the wires of the battery, and at the other with a piece of platinum wire, which is coiled around the porcelain cauteriser. The battery employed is Groves', of four or five cells, and of these two are required to heat the porcelain to whiteness, which degree of heat is essential. From this simple contrivance the instrument derives its principal value, the heat being thus both intense and permanent. When ready for use it is entirely under the control of the surgeon, a matter of vast importance in its application. The patient to be operated upon should be in the usual obstetric position, and the batteries and wires concealed from her, so that she should not have any idea of the nature of the remedy. A good light and speculum are essential, and the speculum best suited is the common circular glass one, or one of glass coated with gum-elastic. Neither the two-bladed metallic nor the conical glass forms are at all suited; the former because it allows all the heat from the blades of the speculum to be concentrated on those portions of the vagina which bulge between them, and the latter because it is liable to be easily expelled by the vagina. A full view of the os and cervix uteri having been obtained, the os should be cleansed with a piece of cotton or wool, and when the cautery has become intensely heated, it should be steadily introduced and quenched in the diseased tissue, the duration of the application and the depth of its introduction depending upon the effect required. The eschars thus produced are marked with a whitish-yellow border, and the cervix often visibly contracts under the application of the cautery. The author insists upon heating the porcelain to whiteness, otherwise slight hæmorrhage may occur, from the instrument dragging off a portion of mucous membrane, which invariably adheres to the instrument under such circumstances; the surgeon should also remember that the degree of the eschar is entirely under his control. He also states that the cases in which the cautery is applicable are those of induration of the os and cervix uteri, of ulceration of the os, and in prolapsus uteri, and also in prolapsus of the anterior wall of the vagina.

ART. 143.—*The perchloride of iron employed to arrest consecutive hæmorrhages in cancer of the neck of the uterus.* By M. REMILLY.

(*Bull. de Thér.*, 1854; and *Medical Times and Gazette*, Feb. 25, 1854.)

We have employed, observes M. Remilly, the perchloride of iron to arrest the uterine hæmorrhages which so frequently accompany cancer of the neck. It is administered by injections, in the strength of 15· of the perchloride to 250· of water. The dose required is usually 15 grammes of the perchloride (5 drachms English.) A woman, æt. 60, suffering from cancer uteri, voided daily large clots of blood from the vagina, some as big as the fist. Two injections (September 12), at the interval of five minutes, sufficed to arrest the hæmorrhage for three days. On the 15th, the blood flowed again, when two fresh injections were administered with success. On the 16th and 17th the injections were continued without any recurrence of hæmorrhage. On the 18th, the patient, who had lost no more blood, became pale and faint after the second injection—symptoms which seemed referable to the remedy, as the external organs of generation were temporarily swelled. She soon, however, recovered; and, from October 26th to November 19th, she has remained free from any return of the bleeding.

A second patient, æt. 49, suffering from soft, vascular, fungous growths from the os uteri, accompanied with a discharge of dark, fetid blood from the vagina, was subjected to the same treatment. The first injection produced an immediate disappearance of the discharge. The day following there was a second discharge, which was not arrested by the injection, but the patient declared that the instrument had been badly introduced. The next day the remedy was used with more care, and with complete success.

A third and a fourth case are related by M. Remilly, illustrating the decided benefits ensuing from this plan of treatment; and he remarks, that not only does the injection relieve the patient from troublesome and often offensive discharges, but that it retards the progress of anæmia and prolongs her existence. It is impossible to say what effect the perchloride may have upon the future progress of the cancerous disease; but it may assist, by arresting weakening losses of blood, in rendering more decidedly beneficial tonic and ferruginous remedies, employed so often without the least success in combating cancer and its complications.

ART. 144.—*On the treatment of Ovarian Dropsy by injections of iodine into the cysts.* By Professor SIMPSON.

(*Edinburgh Monthly Journal*, May, 1854.)

It has been often proposed to treat dropsy of the ovary upon the same principles as hydrocele or dropsy of the tunica vaginalis. In accordance with this view, Drs. Hamilton, Scudamore, and others, have in former times injected ovarian cysts, with irrigating solutions

of sulphate of zinc, &c.; but the results have in general proved so unfortunate and disastrous as to prevent a repetition of the practice.

In 1832, Mr. Martin first recommended the use of tincture of iodine as the surest and safest injection for the cure of hydrocele; and this drug seems now almost universally adopted by surgeons in the obliterative treatment of this variety of local dropsy in the male subject.

Latterly, various surgeons, particularly Velpeau, Boinet, Belluerimi, &c., have extended the practice of iodine injections to the treatment of other local dropsies and cysts; to chronic abscesses; diseases of the joints, &c. And the past experience of surgeons on the subject would certainly seem to show that while the local and direct application of iodine to morbid secreting surfaces has a great power of modifying, altering, and arresting even the secretory action of these surfaces, and often changes suppurative into adhesive inflammation, it shows at the same time wonderfully little aptitude to excite any excess of local irritation and pain. Hence naturally arose the question, whether it could be safely and successfully injected into such large cysts as those of the common form of dropsical ovary.

In 1846, Dr. Alison, of Indiana, recorded the history of a chronic case of ovarian dropsy that had been repeatedly tapped, and which he injected at last with a solution of iodine. Severe symptoms followed, but the ultimate result seems to have been favorable. In 1851, Dr. Simpson assisted Mr. Syme in injecting a cyst in the neighbourhood of the ovaries, but not a common cystic form ovary. The symptoms which ensued were those of considerable excitement; but the original cyst apparently became obliterated. Another one in its vicinity has lately shewn itself in this patient.

Within the last year, Dr. Simpson has, subsequently to tapping, injected into dropsical ovarian cysts the tincture of iodine in seven or eight cases. For this purpose he has employed the common tincture of iodine of the Edinburgh Pharmacopœia, undiluted. He has usually thrown into the cyst two or three ounces of the tincture. In some cases he has allowed a portion of the injected fluid to re-escape; in others, has retained the whole of it in the sac of the cyst that was tapped. From these cases he drew the following conclusions:

1. In none of the cases of ovarian dropsy treated with iodine injections after tapping has he yet seen any considerable amount of local pain follow the injection, with one exception; in most instances no pain at all is felt; and in none has constitutional irritation or fever ensued. In the one exceptional case, considerable local irritation followed, and the pulse rose to 110; but the same phenomena occurred in the same patient after previous tapplings without iodine being used.

2. While the practice seems thus so far perfectly safe in itself, it has by no means proved always as successful, as in hydrocele, in preventing a reaccumulation of the dropsical fluid; for in several instances the effusion into the sac seems to have gone on as rapidly as after a simple tapping without iodine injection.

3. But, in two or three of the cases, the iodine injection appears to have quite arrested, for the time being, the progress of the disease, and to have produced obliteration of the tapped cyst, as there is no

sign whatever of any reaccumulation, though several months have now elapsed since the date of the operation.

Lastly. Accumulated experience will be required to point out more precisely the special varieties of ovarian dropsy most likely to benefit from iodine injections, the proper times of operating, the quantities of the tincture to be injected, and other correlative points. Perhaps the want of success in some cases has arisen from an insufficient quantity of iodine being used, and from the whole interior of the cyst not being touched by it. The greatest advantage would of course be expected from it in the rare form of unilocular ovarian cysts. In the common compound cyst, the largest or most preponderating cyst is usually alone opened in paracentesis; and though it were obliterated, it would not necessarily prevent some of the other smaller cysts from afterwards enlarging and developing into the usual aggravated form of the disease.

ART. 145.—*On the excision of Ovarian Tumours.*

By Mr. ERICHSEN, Surgeon to University College Hospital.

(*Lancet*, Dec. 24, 1853.)

After some introductory remarks, Mr. Erichsen relates the case of a lady, æt. 65, and the methods employed to form the diagnosis, and determine the selection of the mode of operation. The room having been warmed to a temperature of 80°, the patient was laid on a table of convenient height, covered with doubled blankets, so that the legs hung over the end of it, chloroform administered, and the bladder emptied. (The bowels had been cleansed out by a purge on the preceding day.) The operation was commenced by an incision about five inches in length, made in the linea alba from the umbilicus downwards, the tissues carefully incised, and the peritoneum opened, when the tumour presented itself. Into the part on the left side, that was soft and fluctuating, a large trocar was introduced, and about a gallon of very thick, pasty, dark-coloured fluid drawn off. The hand was now introduced into the cavity of the abdomen, and the more solid part of the tumour (which extended high up on the right side, lying against the liver) was drawn down and brought out through the wound. In doing this, a few adhesions that passed between the anterior wall of the abdomen and the tumour, were broken through. The mass, which was of considerable magnitude, was now lifted out of the abdomen (the intestines, being protruded, were passed back with soft warm cloths), and was found to be connected by a broad attachment to the right broad ligament. This pedicle was short, wide, and composed principally of large blood-vessels, with some connecting cellular tissue; it was drawn well forwards. A nævus-needle, armed with strong whip-cord, was passed across it, care being taken to avoid any of the blood-vessels. The peritoneal investment of the pedicle was then dissected off to the extent of about a quarter of an inch in breadth all round, and the whip-cord ligature firmly tied on either side along the line. The tumour was then detached by cutting across the pedicle, half an inch above the ligature. The wound was closed by a series of

interrupted sutures, closely applied, and at the lower part by two hare-lip pins, with figure of 8 sutures; round these the ligatures of the pedicle were firmly twisted, so that the cut stump projected out of the abdomen between the lowest pin and the inferior angle of the wound. The abdomen was then supported with cross strips of plaster and a bandage.

Mr. Erichsen then describes the after-treatment adopted. The patient left the bed on the sixteenth day. He considered that the case illustrated well the surgical management to be adopted. The principal points in the operative procedure, that in his opinion required attention, are to regulate the length of the incision to the size and character of the tumour. The more fluid the tumour, the less extended need the incision be. As the solid part of the mass must necessarily be extracted entire, an incision for that purpose must be proportioned to its magnitude and shape, and the surgeon should not advocate either the small or large incision exclusively. The ligature of the pedicle is an important point, for unless this be properly practised there will be no inconsiderable risk of the supervention of secondary hæmorrhage. It is best done by transfixing with a nævus-needle, carrying a whip-cord ligature, and tying on each side as tightly as possible. The dissecting downwards of that portion of peritoneal investment of the pedicle, across which the ligature is tied, appears to be of much importance in preventing the constriction and sloughing of the otherwise included line of serous membrane, and thus lessening the dangers of peritonitis. It is a part of the operation, however, attended by some risk, by the chance of wounding the blood-vessels, which are here thin, walled, and large, that they may be avoided by careful manipulation. After trying the pedicle, it is of considerable moment that the ligatures should not lie in the peritoneal cavity, and that the stump should not slough off within the cavity of this membrane, as under each circumstance peritonitis of a severe or fatal character would probably ensue. All this is best avoided by drawing the pedicle well forward, so as to project above the wound, and attaching the ligature to the harelip-pins, with which the lower line of the incision is closed. The after-treatment consists in keeping the patient in a warm room, giving a liberal supply of ice, with opiates to tranquilise the system, and arrest peristaltic action; to draw off the urine, and not to attempt to relieve the bowels, which may be left confined for many days without inconvenience to the patient. In considering the subject of ovariectomy, two questions present themselves,—first, as to whether the operation is a sound one, and ought to be retained in practice; and, secondly, if retained, in what class of cases it should be had recourse to. In answer to the first question, the course taken by ovarian tumours varies greatly. In some instances these growths do not appear to be incompatible with prolonged existence and a fair share of health; in other instances, again, after remaining quiescent for some length of time, they assume considerable activity of development, and interfere so seriously with the other abdominal organs, and with the general operations of the economy, that life is attended by great misery and discomfort; and in a third class of cases they rapidly and steadily run their course

to an unfavorable termination. After a time, in the majority of instances, the tumour may be materially lessened in bulk by tapping; but when once this operation has been performed, it will require to be repeated with increased frequency, the intervals between each succeeding tapping being diminished, and then a fatal termination at a comparatively early date may be looked for. Mr. S. Lee states, that of 46 patients who were tapped, 37 died, and only 9 recovered; and that of the 37 who died, more than one half did so in four months from the first tapping: 27 out of 37 in the first twelve months, and of these 18 were only tapped once. The objection had been raised against ovariectomy that the mortality from it was so high as not to justify a surgeon in performing it. Undoubtedly a very high rate of mortality after an operation would constitute a very serious bar to its performance, and the more so if it could be shown that the disease for which it was practised was not necessarily fatal, or even a very serious one. Thus Mr. Phillips had collected the particulars of 61 cases in which ovarian tumours were extracted; of these 35 were successful, and 26 died. Mr. Lee gave 90 cases; of these 57 recovered, and 33 died; and Dr. Robert Lee, the most recent writer on the subject, had collected 102 cases of ovarian extraction, of which 60 did well, and 42 terminated fatally. From these statistics it would appear, that the mortality after the removal of ovarian tumours amounted to rather more than one in every three cases. This appeared to Mr. Erichsen not to be excessive, when compared with the result of operations, various severe surgical injuries, or scrofulous diseases. In the next place, ought ovariectomy to be performed in all cases, or even in the majority of instances of ovarian disease? or ought it to be limited to a few and exceptional cases, and practised as a last resource? The most ardent advocate for this operation would scarcely, he thought, advise that an attempt should be made to extract the ovary from every woman labouring under tumour of this structure, but would rather recommend the employment of palliative treatment until the growth had begun to interfere seriously with the comfort of existence, or with the healthy action of the abdominal organs, the patient wasting, suffering much discomfort from her size, with difficulty in breathing, repeated vomiting, gastric irritation, &c. He confessed he saw no chance of giving relief or of prolonging her existence except by the removal of the tumour; medical treatment was of no avail in those cases, and tapping only gave temporary relief; therefore one must either leave the patient to her fate, or have recourse to the ablation of the tumour, which, it had already been shown, might be done with the prospect of success in nearly two cases out of every three. The question of diagnosis had to be considered in two of its bearings:—first, as to the existence of such adhesions between the enlarged ovary and the other abdominal organs as to render the extraction impossible; and, secondly, the diagnosis between ovarian and other abdominal tumours. Such adhesions as would prevent extraction having been met with in rather more than one third of the whole number of cases operated on,—according to Dr. Lee, in 60 out of 162 cases,—the diagnosis of this complication was of extreme importance. Its existence might in general be suspected when it was ascertained

that the patient had been the subject of attacks of peritonitis; when the abdominal tumour did not appear to change its position on the patient taking a deep inspiration and then expiring freely; and when, on the patient raising herself into a sitting posture, the sac did not tend to move forwards into the space between the recti muscles. So also much light might be thrown upon this important point by ascertaining the existence of a crepitant or crackling sensation between the anterior abdominal wall and the tumour, and more particularly when the tumour was tapped, drew down with it the abdominal parietes, or sunk into the pelvis without exercising any traction on those parts. The conditions also of the pelvic viscera, viz., the bladder and uterus, as ascertained by examination with the sound, might tend to show whether connection existed in this quarter or not. But in other instances, and more particularly when the mass is bound down posteriorly, there was no probability of determining this point, and then the surgeon might, to his great annoyance, find that after laying open the abdomen the operation could not be completed, and the tumour require to be left. In those cases in which there was any reason to suspect the presence of adhesions, it was a wise precaution to make a small exploratory incision into the abdomen, through which the fingers or hand might be introduced, and the connections of the tumour examined. If these were too extensive to admit of removal, the aperture might be closed, and possibly the part might escape without any very serious consequences ensuing, as in these cases the peritoneum had in great measure lost its character as a serous membrane, and was not so susceptible of the diffuse and destructive forms of inflammation that would otherwise be likely to occur in it.

ART. 146.—*History and description of the first known case of Pelvis with so-called "Dislocation of the last Lumbar Vertebra forwards."* By Dr. SPAETH, Assistant in the Obstetric Clinique at Vienna.

(*Zeitsch. des G. d. Aeszte zu Wien*, 1 H. 1853; and *Medico-Chir. Rev.* April, 1854.)

Dr. Joseph Spaeth, assistant in the Obstetric Clinique at Vienna, refers to the example of this obstructive deformity of the pelvis recorded by Kiwisch in 1850, and to that of Kilian in 1853. The present case occurred in 1836. The patient was twenty-nine years old, of middle stature, well nourished, with neck, bust, and limbs well developed. The body in walking was perceptibly bent backwards: the lumbar vertebral column usually concave; the abdomen hanging forwards. On examination at the commencement of labour, the head of the child was found directed towards the left hip. The os uteri could only, with the greatest difficulty, be reached by the point of the finger. "*The last lumbar vertebra was felt projecting considerably forwards.*" The labour-pains became irregular and painful; after forty-eight hours the labour had scarcely advanced; the os uteri was swollen and not open, and the head could hardly be reached. Impending or actual rupture was dreaded, and the child appearing to be dead, perforation was resorted to. On the

following day strong pains came on, and the delivery took place. The after-birth came away spontaneously. The uterus contracted. Not much blood was lost. The patient sank on the 3d of March, of metro-peritonitis. The pelvis was preserved by Professor Rokitansky in the anatomical museum of the General Hospital in Vienna; it is marked 1715 and 5203. The greatest deformity in the pelvis consists in the remarkable relation of the last lumbar vertebra to the sacrum, projecting forwards, occupying the place of the promontory, and shortening the conjugate diameter of the brim. Through the projection of the last lumbar vertebra, there results a double twist of the vertebral canal, and a considerable narrowing at the points of bending. The conjugate diameter of the inlet in the dried pelvis is 9" 5", that of the transverse 4" 9". Dr. Spaeth agrees with the view taken by Kiwisch as to the origin of this condition, that it is congenital, since he could find no evidence of injury of the joints concerned. He refers also to the remark of Kiwisch, that "although no other case of this deformity be yet known, yet it cannot be doubted that analogous examples will soon be brought forward."

ART. 147. — *Case of irreducible retroversion of the Uterus rendered fatal by pregnancy.* By Mr. J. B. BROWN, Obstetric Surgeon to St. Mary's Hospital.

(*Lancet*, Feb. 5, 1854.)

This case was read before the Royal Medical and Chirurgical Society.

CASE.—The patient was a young woman, æt. 20, of delicate appearance, who first suffered from prolapsus uteri, brought on by lifting a heavy weight, but which was relieved by a bandage, and from which she appeared to suffer no inconvenience. She became pregnant, and, increasing in size, she first sought medical relief from the difficulty she experienced in emptying the bladder, and then only by great straining, passing but small quantities, suffering, however, in the interim, from incontinence of urine. She was admitted into St. Mary's Hospital, and on examination the anus was found to be very open and the rectum protruding, as in a bad case of prolapsus ani; the perinæum distended and tense, and the labia partly open, through which an oviform body was discernible. On passing the finger within the labia, a large tumour was felt behind the posterior wall of the vagina, and on exploration by the rectum, the tumour was felt anterior to it. The whole pelvic cavity was filled with the tumour. The bladder being first emptied, two fingers of the right hand were passed under the arch of the pubis to the brim of the pelvis, and then the os uteri was felt pressing the neck of the bladder firmly against the pubis, the posterior lip of the os being in this case inferior. The movements of the fœtus were distinctly felt. The urgency of the symptoms which rapidly followed her admission into the hospital precluded all hope from surgical interference. Vomiting of a dark grumous matter came on; she rapidly sank, and died the third day after admission. On a post-mortem examination, the peritoneal surfaces indicated considerable inflammatory action; the bladder was much dilated and flattened, adherent anteriorly to the abdominal walls, and contained some fetid ammoniacal urine; the mucous membrane appeared disorganised. The intestines

being removed, the uterus was found occupying the pelvic cavity, to which it was completely moulded in its retroverted condition, with its fundus pressing against the posterior wall of the vagina and sacrum, and the os, high up behind the arch of the pubis, in firm contact with the neck of the bladder. A foetus of five months, with breech presentation, was found within the cavity of the uterus. The author concluded the paper with some practical observations on the treatment of such cases.

ART. 148.—*Two cases of Uterine Catheterism which were followed by death.* By (1) M. —; and (2) M. BROCCA.

(1) *Archiv Gén. de Méd.*, March, 1854; and (2) *Gaz. des Hôpitaux*, Feb. 4, 1854.)

The first of these cases was brought before the Parisian Academy of Medicine by M. Cruveilhier, who had been consulted concerning it after the mischief had been done.

M. —'s case.—The patient, a lady, æt. 24, and married five years, greatly concerned at having no family, consulted a gentleman who told her that the reason of her barrenness was anteflexion of the womb, and who afterwards proceeded to rectify this condition by means of the uterine sound. Severe pain followed the first, and every subsequent introduction of the instrument, and this pain, and the nausea and tympanitis which attended upon it, rendered it impossible to wear this instrument longer than a few hours. She was then removed to Paris, and subjected to the same treatment, under very able hands, but with the same results. She remained in Paris a month. Five weeks after her return to the country, she was seen by M. Cruveilhier. He found the uterus anteverted, enlarged, inflamed, and excessively sensitive to the touch. He also found the patient extremely prostrated, and suffering from continual vomitings of greenish matter, but without any signs of general peritonitis. The patient sank eight days afterwards.

2. *M. Broca's Case.*—A woman, æt. 39, was admitted into the Hospital of Lourcine, complaining of severe hypogastric pains extending down the thighs, of disturbance of digestion, loss of appetite, colic, constipation, and frequent emission of urine. Examination per vaginam, both by the finger and the speculum, confirmed the diagnosis of anteversion of the uterus, the os being directed nearly directly backwards, the body being horizontal. Upon October 7, the uterine sound was introduced, the patient standing upright; the instrument penetrated the organ, directed by the index finger, two and a half inches. The uterus was easily replaced, and held in its proper position for five minutes. There was no pain given to the patient. The day following the same course was pursued. On the 10th, the catheter was introduced for the third time, the woman declaring that she felt much relieved by the operation. On the 11th, the introduction of the instrument caused slight pain; on the 12th the abdomen became painful upon pressure; fever ensued with nausea. Ordered that thirty leeches should be applied to the hypogastrium. On the following day the leeches were repeated with good effect. Mercurial frictions were then directed to be applied to the abdomen. During the day a small quantity of blood flowed from the vagina. On the 15th the fever had disappeared, and the sickness had been partially calmed; but there was one region of the abdomen, situated over the right ovary, always painful upon pressure.

Although the abdominal pains had disappeared entirely by the 17th, yet the stomach rejected every kind of food or medicine; the bowels were constipated,

and the patient became rapidly emaciated. On the 22d she had stercoraceous vomiting; and on the 23d she died, after severe suffering. The examination of the body, by M. Broca, exhibited traces of two attacks of peritonitis; one of old date, the other recent, and excited, in all probability, by the catheterisms practised upon the uterus fifteen days before. The inflammation had commenced at the right angle of the uterus; but, although the peritonitis had yielded to active treatment, adhesions remained which arrested the course of the fecal matter, and gave rise to the symptoms which immediately preceded death. The mucous membrane of the uterus was found uninjured.

ART. 149.—*Extirpation of the Uterus and Ovaries.*

By Dr. BURNHAM, Professor of Surgery in Worcester Medical College, U. S.

(*American Lancet*; and *Dublin Medical Press*, March 8, 1854.)

Notwithstanding the favorable termination of this case, Dr. Burnham says that he would not easily be induced to repeat this operation, or to remove the uterus under any circumstances; and yet he has had considerable and successful experience in gasterotomy, for he has excised six ovarian tumours, and five of the operations have been successful. The tumour in this case weighed eight pounds.

CASE.—Miss —, æt. 42, had a tumour in the left iliac fossa, which had gradually been increasing for the past six years. After two years existing in this situation, it occupied a more central position, and seemed to be bilobed, although for a long time the pain and uneasiness were confined to the left iliac fossa. For five years after the discovery of the tumour, the patient experienced but little inconvenience, and consequently resorted to no regular course of treatment. But during the last year the tumour increased rapidly, and at intervals was attended with very severe pain and nervous irritability. The paroxysms of pain increased in severity and duration, until there was but slight intermission; indeed, it could not be said that she was at any time free from pain. Her strength also had failed, and there was much functional derangement of the pelvic viscera, owing to the pressure of the tumour upon the different organs.

I first saw her in May, 1853, and after a careful examination of the case, and obtaining from her the best history I could of its progress, I informed her that she could not be cured by any remedial plan of treatment, and that nothing short of the removal of the tumour could in any way be expected to benefit her, and even this course could not be adopted without placing her life in imminent danger. I recommended her to seek other professional advice, and also to consult her friends as to the propriety of running so great a risk. She called on me again about the 15th of June, and informed me of her determination to submit to the operation, which was performed on the 25th of July.

The tumour was quite moveable, extending three inches above the umbilicus, and occupying mainly the left side, though it could be pushed to the opposite side without difficulty or pain. I could detect its division into three lobes, or that there were two distinct appendages to the main tumour, moveable to a certain extent, and independent of it; but such was the form of the tumour, and the thickness of the abdominal parietes, that I could not possibly determine the exact relations they held towards each other. But from the fact that the tumour first appeared in the iliac fossa, and that the body of the

tumour still maintained its position on the left side, I came to the conclusion that it was merely disease of the left ovary; but in this I was mistaken, as were several other professional friends who were with me, as also those who had examined the case in its earlier stages.

I was assisted in the operation by my brother, Dr. Z. P. Burnham, Dr. F. G. Kittredge of Lowell, and Dr. S. C. Ames of Boston. There were also present a large number of medical gentlemen. The patient was placed on the table, and immediately brought under the influence of chloroform, by Dr. S. C. Ames. I now made the first incision through the linea alba down to the peritoneum, from the umbilicus to the pubis. There was slight hæmorrhage from the superficial vessels, which occasioned the delay of a few moments, but this was speedily checked by the cold wet sponge. The peritoneum was next pinched up with the forceps, and a small slit made so as to admit the director, upon which a straight-pointed bistoury was introduced, and the peritoneum divided, first upwards, and then downwards, to the full extent of the external incision. I was now enabled to determine the nature and extent of the tumour, and found that its principal portion was attached by a small neck, about one inch in diameter, to the fundus of the uterus, instead of being an enlargement of the ovary, as I had supposed; and also that the uterus itself was implicated in the disease, occupying and filling the pelvis literally full. I also ascertained that the left ovary was enlarged to the size of a man's fist, and of the same fibrous structure. To the right ovary was attached a cyst, containing about six ounces of a dark sero-albuminous fluid. The upper and main body of the tumour was of a size that it could not be turned out of the abdomen without enlarging the incision through the integuments; I therefore prolonged it to the left of the umbilicus upwards two inches. I could now by a little effort press the upper portion of the tumour outward, so as to admit of a free examination, when I perceived that the blood-vessels entering it were of very large size, and to guard against hæmorrhage (as it was necessary to remove this portion before I could operate on the remainder) I passed a double ligature around the neck of the tumour, and as close as possible to the fundus uteri, and cut this portion of the tumour above the ligature. It was now deemed proper to remove that portion which involved the ovary, in order to have room to dissect around the neck of the uterus, without danger of fatal hæmorrhage. I therefore carefully dissected the left ovarian tumour, which was principally attached to the broad ligament of the uterus; the spermatic arteries were ligated previous to its removal. The next step was to lessen the size of the right ovarian tumour, and this was done by a free incision into the sac, and absorbing with a sponge the fluid it contained. I had now but the uterus in its enlarged condition to contend with, but so completely was it impacted in the pelvis that it was with the utmost difficulty its position could be altered to permit the completion of the operation. With great caution I at length removed all the attachments down to the cervix uteri, and this part not appearing to be in the disease, was divided at the point where the vagina is reflected upon it.

Two arteries (the uterine) only required ligatures. The right ovarian sac being removed, the parts were carefully washed and returned to their natural position in the abdominal cavity, the edges of the wound brought together and retained by four sutures and adhesive straps, which were carried quite across the abdomen, to afford adequate support to the muscles. A compress of soft linen and a bandage completed the dressings. The patient was placed in bed, and as soon as she had recovered from the effects of the chloroform, I gave her morph. gr. $\frac{1}{2}$, ipecac. gr. i., gum accac. gr. iv.; and directed this to be repeated every four hours.

June 26th.—Patient slept about half of the night; no pain in the abdomen; considerable thirst, which seemed to be the result of inhaling the chloroform from its effects on the mucous membrane of the mouth and air-passages.

27th.—Little change in the symptoms; pulse slightly increased in frequency; thirst; no pain or soreness; rested well all night; treatment continued.

28th.—Pulse 108; general increase of heat of the surface; some uneasiness of the bowels. Ordered an enema of infusion of senna, which produced two free evacuations; continue the anodyne.

29th.—Restless night: copious discharge of dark offensive matter from the wound and vagina; tenderness over the whole abdomen; pulse 150; tongue coated with a brown fur; skin dry and hot; excessive thirst; constant desire to change her position; abdomen distended with gas. To have an enema of senna and thoroughwort, with twenty drops of tincture of opium; this produced a free evacuation of offensive fecal matter, but it did not remove the flatulency. The anodyne to be given every two hours, and equal parts of spirits and water to be applied to the abdomen.

30th.—No material change in the symptoms; night restless. Medicines continued, with the addition of two grains of scutellin to each powder. Quiet sleep followed.

July 1st.—Patient much worse; pulse 140; restless; constant vomiting and hiccough; bowels distended so as to tear open the adhesions which had been firm for three days; suppuration abundant and offensive from the wound and vagina. Ordered an injection of senna, ginger, and forty drops of laudanum. Free evacuation, though no subsidence of the distension; alcohol applied to the abdomen, and the incision protected by adhesive plaster. The anodyne to be taken every four hours, adding to it three grains of cypripedin.

2d.—Still worse; pulse intermittent; vomiting every fifteen minutes; cadaverous expression of countenance, and all the symptoms indicate rapid dissolution. Warm brandy-and-water, with charcoal, to be taken every ten minutes; continue the anodyne, and a fermenting poultice to be applied over the whole abdomen.

3d.—Has passed a bad night; much exhaustion; pulse 110 and regular; not quite so much distension of abdomen. Ordered two grains of podophyllin and ten of compound rhubarb powder in a little brandy, to be repeated in two hours, and followed by an injection of warm ginger. After the second powder and injection, the patient had a copious evacuation of dark impacted scybala, which must have remained in the intestinal canal for many days, notwithstanding there had been what seemed to be free evacuations from the entire extent of the canal several times since the operation. Much prostration attended the evacuations, but the patient was kept from sinking by the free use of stimulants; and as soon as the operation was over complete reaction and cessation of the vomiting ensued; the gas passed off, the abdomen became reduced to its natural size, the pain at once subsided, and a general improvement in all the symptoms became evident.

4th.—Improving; slept well; pulse 104, regular and full; copious discharge of a dark-coloured offensive pus; all the ligatures but one have become detached; no pain, and but little soreness to the touch. Ordered a generous diet, with an infusion of cinchona, and Dover's powder at night.

5th.—Continues well; quinine in four-grain doses every hour in place of the cinchona, and the free use of brandy.

6th.—Improving in every respect, except in the amount and quality of the secretion, which discharges abundantly from the wound and vagina, and corroding the skin wherever it came in contact with it. The parts to be well washed with chloride of soda; a liberal diet of animal food.

7th.—Rapidly improving; pulse 96; remaining ligature detached; removed an offensive slough from the omentum. Treatment continued.

8th.—Pulse 100, sharp and small; mouth covered with aphthæ, and the skin with petechiæ; sharp darting or prickling pains over the abdomen; diarrhœa and great prostration; edges of the wound are flabby and of a pale colour. Ordered quinine grs. xij., morphine grs. ij., to be divided into eight powders, one to be taken every four hours; and the mouth washed with nit. argent. gr. ij., tinct. myrrh. ʒj., aq. rosæ ʒij.

9th.—Little alteration in the symptoms; bowels have moved freely. Treatment continued, with the addition of subborate of soda for the mouth.

10th.—Improving; mouth is cleansing; petechiæ disappearing from the surface; pulse 92; appetite improving; edges of the wound assume their natural colour and elasticity; suppuration diminished in quantity, and of a healthy character. Continue treatment, but the anodyne and tonic powders to be taken only once in eight hours.

12th.—Rapid amelioration in all the symptoms; no discharge of pus from the vagina, and but little from the wound.

15th.—Mouth cured; patient turns in bed without pain; wound nearly healed; bowels regular; appetite good. Continue the quinine, but omit the other remedies.

20th.—Sits up one hour at a time twice a day, and gets up without assistance. Discontinue medicine.

30th.—Wound completely closed; no discharge from vagina; general health good; has taken no medicines for the last ten days; is gaining strength rapidly, and may now be considered out of danger.

ART. 150.—*Case of Vesico-Vaginal Fistula, in which the os uteri passed through the opening into the bladder and became adherent in that position.* By Dr. MARION SIMS, of New York.

(*American Medical Monthly*, Feb., 1854.)

This case, in all probability, is the only one of the kind on record.

CASE.—Mrs. K., æt. 43, tall and stout, the mother of five children, had been subject to vesico-vaginal fistula since August, 1842. The fistula had resulted from the injuries she had sustained in a very severe labour. There had been irretention of urine all this time, and at the time of the menstrual periods much clotted blood had always passed away along with the urine.

On examination the uterus was found to be retroverted, with its fundus fixed almost immediately under the promontory of the sacrum, and its neck and mouth tilted forwards and passed through a fistulous opening into the bladder. The fistula was partly plugged in this manner, the plugging being rendered more perfect by strong adhesions between its edges and the side of the os and cervix uteri; but it continued open at its inferior extremity, and allowed the urine to escape in considerable quantities. The vagina was short, but otherwise capacious.

In treating this case, Dr. Sims attempted first to restore the uterus to its normal position, and afterwards to close the fistula; but he was obliged to abandon this project in consequence of the great suffering it occasioned, and to content himself with closing the fistula without disturbing the position of the uterus. He succeeded in doing this on a second attempt. This was on the 5th of December, 1852.

Now, he tells us, the menses pass off at the regular times mingled with the urine, and without any suffering; the escape of urine by the vagina being completely cured.

ART. 151.—*Two extraordinary cases of Impalement per Vaginum, and recovery.* By (1) Dr. BRYAN, of Aberdeen, Mississippi, and (2) Dr. SARGENT, of Worcester (U. S.).

(*American Quarterly Journal of Medicine*, Oct., 1853.)

These cases are remarkable in themselves, but they are chiefly interesting as exemplifying the operation of the *vis medicatrix naturæ*.

“1.—*Dr. Bryan's Case.*—During my residence in Amherst County, Va., in 1850, I was called, on the 25th of April, at about 3 p.m., to see Phœbe, a slave, æt. 25, black, smooth skin, small stature, and the mother of three healthy children.

“On arrival, I learned that, at about 2 p.m., she had leaped from the height of ten feet, and alighted upon a tobacco-stick, which had been driven firmly in the ground and was concealed by some loose fodder. (The stick was four and a half feet long, and one inch square). The vagina was entered without doing much injury to the vulva; the stick passed up the canal, and perforated its walls on the right side of the os uteri, entered the cavity of the abdomen, and passed in an oblique direction upwards, and finally lodged against the twelfth and eleventh ribs of the right side.

“4 p.m.—Hemorrhage quite subsided, but at the time of accident it was very profuse from vagina; pulse 120, and very small; extremities cold; countenance anxious; pain in abdomen distressing; nausea and frequent vomiting; mind clear.

“Tincture of opium 3j, brandy ʒij to be given at once, and repeated every hour or two until reaction, or relief was obtained; warm applications to the extremities, and a poultice to the entire abdomen.

“26th.—Slept during the latter part of last night, and has been sleeping occasionally during the morning, but is not altogether free from pain. Reaction took place about 12 o'clock last night; pulse now 110, quick and hard; abdomen much swollen, hard, and tender to the touch; complains a good deal of the side, about the point where the stick lodged, and the lower region of the liver. The swelling and contusion externally are considerable, and she cannot bear the part to be handled; vulva very much inflamed; passes water with much pain and difficulty.

“Ten grains of Dover's powder to be given at bed-time, and to be repeated during the night if necessary; effervescing draught every two hours; poultices to be continued.

“27.—Rested pretty well last night; pulse 112, hard; skin dry; abdomen very much distended and painful to touch; eyes very red; has vomited some bilious matter; passes her water still with difficulty; bowels have not been moved since the accident. Six grains of calomel and ten of rhubarb; to be given at once, and followed by an enema of soap and water in six or eight hours, if no action is had by this time; anodynes and poultices continued; vulva to be frequently cleansed with Castile soap and warm water.

“28th.—Pulse 100 and softer; several bilious discharges; some discharge of pus from vagina; no other material change. A pill of 2 grs. of blue-pill and 1 grain of Dover's powder, to be given every six hours; and the effervescing draught and poultices to be continued.

"29th.—Abdomen enormously distended, dull on percussion and painful on pressure; bowels moved twice, discharges of bilious character; pulse 118, small and quick; rested badly last night; skin dry, tongue coated over with a brown fur. Treatment as before.

"30th, 10 a.m.—Had, about 2 o'clock last night, a copious discharge of grumous blood from the bowels, which discharge continued to occur every hour or two until 9 a.m. this morning; could not ascertain the exact quantity, nurse supposed it to be from seven to eight quarts; this is no doubt a too liberal estimate. Abdomen has gone down very much; pulse 130, small and feeble; skin dry and cool; she seems quite exhausted; vaginal discharge continues. Ordered half a grain of sulphate of morphia at once, with infusion of serpentaria $\frac{3}{4}$, at intervals of two hours. Continue pills and poultices, but discontinue draught.

"May 1st.—Abdomen much flattened; two bilious discharges yesterday free from blood; pulse 112, small and soft; vaginal discharge more profuse; passes her water freely; skin dry; has some appetite. Continue as before.

"4th.—Has done well since last visit, until last night. Nurse thinks she was alarmed by a conversation which took place in the room upon the subject of death and her probable recovery. After an hour or two she was better, and again expressed her belief that she would get well, never before having any doubt about her recovery. Bowels have been moved once this morning; biliary secretions improving; skin continues dry; pulse 108; appetite better. Continue treatment; is allowed a more nutritious diet.

"6th, 10 a.m.—Pulse 108, soft; skin moist; bowels in good condition; appetite good; vaginal discharge diminishing; complains of little else than soreness in the right side.

"Ordered tonics and better diet; mercury discontinued; no appearance whatever of its constitutional effects.

"8th, 12 a.m.—Convalescing. Continue tonics.

"11th, 11 a.m.—Convalescing rapidly.

"Recovered fully by the middle of June following."

In answer to some queries put to him by Dr. Meigs, of Philadelphia, to whom this case was communicated, Dr. Bryant states further—

"I will now state from memory the account given to me by the patient at the time of my first visit, and which was frequently reiterated by her to me afterwards. She said that, on jumping on what she supposed to be loose fodder, she thought her belly was torn open, but found that she was hanging upon something, which had entered her body, and was resting upon her ribs at the right side. She felt it distinctly with her hand, and in trying to extricate it everything turned black; and when she came to herself, she was still lying in the same position. Being alone, she had great difficulty in extricating herself, and when she did, a gush of blood followed immediately.

"On first hearing this accident, I doubted the possibility of the extent of the penetration, but I had the stick brought to me, and on critical inspection I was satisfied that it had entered her body $11\frac{1}{2}$ or 12 inches. It was thickly besmeared with bloody mucus to this extent. *I am quite clear the stick was not stained by the fluid running down upon it.*"

"2.—*Dr. Sargent's Case.*—This case occurred nearly two years ago. A lady, of about 37 years of age, who had borne several children, the last about

three years previous to the injury about to be mentioned, and whose last menstrual period had been about a week before, her bowels also being in good lax condition, in sliding down from a hayloft, impaled herself upon the handle of a pitchfork, which passed in at her vagina to the length of twenty-two inches, when her feet struck the ground. The handle was immediately withdrawn, the patient carried into the house, and Dr. S. sent for. He found the patient, half an hour after the injury, lying on her back, with the thighs flexed, and the skin cool, pale, and moist (as if from fright), and the pulse not much accelerated. There was no external injury, and no physical evidence of effusion into abdomen or thorax, and no urine nor feces on the garments, nor about the person, nor on the field of the accident, nor on the handle of the fork. There was some blood flowing from vagina. Patient passed water during the visit, and it was not stained with blood. She complained most of pain in the left thorax, on a line with the scapula. Dr. S. saw the handle of the fork, which was rounded, a little larger at the end than elsewhere, perfectly smooth, two inches in diameter, and showed distinctly the stain of blood up to an abrupt line, twenty-two inches from the end.

"The instrument, in Dr. S.'s opinion, must have perforated the vagina at its upper part to the left, and gone between the uterus and rectum. If it had gone to the right, it would have perforated the cæcum. The form of the instrument would make it much easier for it to pass between than to perforate organs, and Dr. S. supposed that it passed in front of the kidney, behind the spleen, and between the diaphragm and false ribs, peeling up the costal pleura till it reached the scaleni muscles. The subsequent history of the case, which showed a fracture of the first rib, while, also, there was at no time any effusion into the chest, proved this diagnosis correct. Supposing that the greatest safety of the patient was in what might be called *forced rest*, Dr. S. gave her one grain of morphia (by estimate), and bound her chest firmly with a broad bandage of new flannel, placing a towel, wet in cold water, between this and the skin. The morphia was repeated in an hour, and one third of a grain three hours after. Patient passed water repeatedly in first twenty-four hours, without trouble and without blood, and passed coagula from the vagina. The day following, there was emphysema above left clavicle; and, the day following, crepitus in left axilla high up, as if from fracture of bone. There was at no time any evidence of pneumonia or pleurisy, though there was deficiency of respiratory murmur in left chest from the pain in its expansion, the percussion remaining good.

"The pulse stood at 120 for several days, and the opiates were continued about as long.

"The injury was inflicted the 7th of August, 1851, and Dr. S. was in daily attendance for nine days; and, occasionally, afterwards, for three weeks. The recovery was entirely favorable, the patient being left only with an ill-united fracture of the first rib, over which there was some painful swelling for several weeks, which ultimately subsided, leaving an osseous prominence in the supra-clavicular region, in intimate relations with the scaleni muscles."

(B) CONCERNING THE DISEASES OF CHILDREN.

ART. 152.—*Importance of attending to the condition of the Anterior Fontanelle in the treatment of Infants.* By Mr. HILTON, Surgeon to Guy's Hospital.

(*Guy's Hospital Reports*, vol. viii, part ii.)

The following very important remarks occur in some very valuable "Lectures on the Cranium," to which we shall have to direct more special attention in our report on physiology.

"If properly interpreted," writes Mr. Hilton, "the condition of the anterior fontanelle often forms an indication of great practical value in the treatment of infants. When the arterial circulation is in a natural state of vigour and activity, the anterior fontanelle is observed on a level with the surrounding parts. If, from some cause, the circulation be unduly excited, it is raised or rendered more tense or prominent; but if, on the contrary, the circulation be enfeebled, it is lowered or depressed below the contiguous structures. I know, in fact, of no sign that so clearly and correctly estimates the state of the vital powers of the infant as this easily recognisable condition of the anterior fontanelle. If, on a tactile examination, it be found considerably depressed, it forms one of the strongest marked indications that can be encountered of feebleness and debility; for, it is an evidence of the power at the centre of the circulation being inadequate to the supply of the cranial contents with their normal quantity of blood." (P. 373.)

ART. 153.—*On some points in the pathology of Rheumatism in Children.* By Dr. WILLSHIRE.

(*Lancet*, Feb. 4, 1854.)

In a paper recently read before the Medical Society of London, the author commences by stating that ample clinical observation had now proved that the diathetic malady, called rheumatism, was met with in infants and children, both in its muscular and capsulo-articular varieties. This had been shown, however, by the practical Heberden nearly eighty years before, who had witnessed rheumatic disease in a patient four years of age. In modern times much difference of opinion had been expressed as to the relative frequency of this affection in early life, both in respect to the diseases and more advanced years. The author did not think that as yet we had amassed sufficient data for the establishment of any law upon the points in question, or that the results of the reports of the Registrar-General could do more than offer the most distant approximation to its fatality. It would be at once evident, for instance, that some persons would return cases under certificates of disease of joints, &c., which others would have placed down to arthritis, rheumatism, and rheumatic fever. The author coincided with the views generally

held with respect to the connexion of rheumatism with abnormal states of the joints and heart, and with scarlatina, but he could not avoid thinking that it had occasionally happened that inflammation and suppuration within or around joints have been regarded as rheumatic when pyemia, purulent affection, phlebitis, umbilical or otherwise, should have been referred to for their solution. Cases illustrative of this position were then referred to, as also the views of Betz, of Helibronn, which relate to the question of the identity of rheumatism and scarlatina. The connexion of arthritis with variola was then commented on, as also with disease of the central organ of the circulation. Leaving this division of the subject, the relations of rheumatism with chorea, contraction and essential paralysis were canvassed, as also those with eclampsia, spinal, and certain forms of cerebral meningitis, and with pleurisy. The judgment arrived at was, that however possible such relations were with all, and probable with some, yet with but one exception perhaps (to be afterwards dwelt upon) they had not been proven in the case of any, not even as respected chorea. It was admitted, however, that the pathologist engaged in studying disease in children and youth made no more hazardous an assertion in affirming the rheumatic nature of the above morbid conditions, unconnected with the typical signs of the diathetic disorder, than the pathologist of more advanced life did when he asserted that rheumatic fever might occur "without from first to last the slightest concurrent local inflammation, whether of the joints, or of the heart, or any other organ." The question would arise in both instances—How then is the rheumatic essence predicted of either? The connexion of rheumatism with secondary affection of the brain was then discussed with some detail, as this was a point sought to be mainly illustrated by the author's communication to the Society. Some denied the connexion, others maintained it; evidently, however, more from theory than direct observation. At one period it was believed that the cerebral symptoms which arose in the course of the diathetic disorder were always due to cerebral lesions; but soon a reaction took place, and it was affirmed that they were mostly, if not always, dependent upon lesion of the cardiac organ, the brain itself being only functionally interfered with, as it were, in a reflex manner. More lately still it was sought to be established that both heart and brain might be eliminated from the process, and the encephalic symptoms referred to a "distempered condition of the blood" as the proximate cause of their supervention. Dr. Willshire believed that, on the one hand, we had sufficient clinical experience to warrant the assertion of the connexion of cerebral lesions with rheumatism, as also to show that the encephalic disturbances were sometimes due alone to cardiac complications; and on the other, sufficiently fair hypothesis to permit of the acceptance of "bloodletting" as an occasional cause of the cerebro-rachidian mischief. In proof of the second proposition, the author entered into some details, and dwelt upon the particulars of a case which had lately fallen under his notice. The paper concluded with some observations on the literature of the latter part of the subject of it, especially in reference to foreign writings.

ART. 154.—*On Milk-abscess in newly-born Children.*
By Dr. N. GUILLOT.

(*Archiv Gén. de Méd.*, Nov., 1853.)

Healthy robust children generally secrete milk for a period varying from seven to twelve days after birth, the secretion possessing all the character of the milk which is met with in the adult; and miniature "milk-abscess" may sometimes arise from suppression of this secretion, or from other causes. Dr. Guillot relates five of these cases, each of which presented the ordinary symptoms of inflammation of the mammary gland.

The fact of the secretion of milk in newly-born children has been long known, as well as the frequent occurrence of a similar secretion in both sexes during the establishment of puberty, but the fact had been almost forgotten.

ART. 155.—*Upon the treatment of Hooping-cough.*
By Dr. TODD, Physician to King's College Hospital.

(*Medical Times and Gazette*, March 4, 1854.)

The following remarks upon the beneficial influence of chloroform in hooping-cough are in harmony with the observations of Dr. Fleetwood Churchill upon the same subject (*v.* 'Abstract,' vol. xviii, p. 253). It is to be observed, however, that the clinical lecture, from which these remarks are taken, was given in January 1853, though not published at the time, and that thus the priority belongs to Dr. Todd.

"As the disease does not consist in an inflammatory condition of any part, we may at once dismiss all so-called antiphlogistic plans of treatment. That plan, indeed, has had a fair trial; and if it had any real power over the disease, we should have long ere this accumulated abundant evidence to prove its superiority. The tendency of all the usual antiphlogistic measures is to weaken the nutrition of the lungs and the nervous system, and to impoverish the blood; to reduce the quantity of its colouring matter, to favour the accession of convulsions, and, by the watery parts of the blood filtering through the walls of the blood-vessels, to promote the tendency to hydrocephalus.

"The first point in the treatment is, carefully to guard the patient against the occurrence of bronchitis and pneumonia, as complications of the disease. Now, there is nothing which is so fertile a cause of bronchitis as the admission of cold air to the bronchial mucous membrane. Consequently, the patient should be kept in a well-regulated temperature; if his illness occur in the winter, he should stay indoors, in a roomy, well-ventilated apartment, which is not too warm, but of a uniform heat. He should be kept in this apartment, and not allowed to run about the house into rooms, or upon lobbies or staircases, which must present great variety of temperature. Early and close attention to this maintenance of a uniform temperature of the

atmosphere in which the child resides may save much subsequent mischief.

“The second point is to uphold the general nutrition—to keep the patient well nourished. I do not mean that the patient should be crammed or over-fed, but that his diet should be well regulated, and sufficient food of all kinds supplied, not only to satisfy the appetite, but also—and what is far more important—the real wants of the system. On this account, I object to keep children in this disease without animal food, as some so much insist on, though why they do so I cannot tell; for meat, in regulated quantities, and properly masticated, is more easily digested than almost anything else; and it differs from other alimentary substances, in the fact that its digestion consists in a simple process of solution in the stomach.

“Another practice which exercises a most favorable influence on the nervous system (and it is this that we must look to after all) is sponging the chest with *cold water* once or twice a day. The parents of weakly, delicate children often object to this plan of treatment; but by ordering a little spirit to be mixed with the water, you not only may overcome their scruples, but in giving a stimulating quality to the application increase its efficacy. This sponging of the back and front of the chest, night and morning, exercises a bracing and tonic influence on the nerves, and in this way often acts very beneficially in this disease. Spirituous embrocations often do good in a similar manner.

“In a large number of cases, one can get on very well without having recourse to drugs. Those which you will find most useful, and which I would recommend to your notice, are sedative and anti-spasmodic remedies, in virtue of the power which they possess in allaying irritability of the nervous system generally, such as the various preparations of opium, henbane, conium, belladonna, and hydrocyanic acid. The non-nauseating expectorants, such as chloric ether, ammonia, and perhaps senega, may be also used; and astringents, to check excessive bronchial secretion, such as alum, sulphate of zinc, tannic and gallic acids, are sometimes necessary. But you must bear in mind, that such remedies should be used with caution, especially opiates, which in infancy and childhood are at all times to be given with great care, and more particularly if the lungs have become congested. The drugs which I would recommend you to avoid are those which have a depressing and lowering tendency, such as tartar emetic and ipecacuanha. Many children, I am quite satisfied, while suffering from hooping-cough, have died from the too free and slovenly exhibition of these emetics.

“If I had an opportunity of treating hooping-cough on the large scale, I would, in cases in which the paroxysms are very frequent and very severe, and when as yet the lungs are free from congestion, but not otherwise, give a fair trial to the careful inhalation of chloroform, with the view of endeavouring to cut short the paroxysm. We know that we can arrest the paroxysm of asthma in this way; why, then, should we not be able to do the same with that of hooping-cough? I have also known laryngismus stridulus relieved by the use of chloroform; and it is now well proved that other convulsions of children may be checked by its means.

"In the cases of delicate children, where there is great reason to fear that damage may be done to the lungs by the cough, this practice may prove very useful. But, with reference to the administration of chloroform, this fact should always be borne in mind, and it cannot be too frequently reiterated, that due provision should be made for the simultaneous free admission of air, along with the vapour of chloroform. There is no point upon which some men seem to be more foolhardy than on this one; and it is by the neglect of attending to this that the reputation of one of the most valuable remedies that has ever been applied to the relief of human suffering may be seriously damaged. I do not advise you to give chloroform so as to produce its full effect; it may be inhaled in small doses of ten or fifteen minims, which may be repeated at intervals, according to the severity of the paroxysms. When children are already in an exhausted and very depressed state, chloroform ought not to be administered by inhalation, or it should be given only in the smallest quantities.

"Another remedy in the treatment of whooping-cough, to which I should very much like to give a fair trial, is the application of cold water, on the splashing plan, two or three times daily, with or without the inhalation of chloroform. Such a practice must be pursued with proper precautions; first, to maintain a warm temperature of the room in which it is done; and, secondly, to have the water thrown over the child rapidly, and not so as to wet the head—to let the back and chest receive the brunt of the splash. These measures combined would tend to diminish the severity of the paroxysms, ward off the occurrence of bronchitis and pneumonia, as complications of the disease, promote the general nutrition, stimulate the nervous system, and thus protect the patient from the damaging effects of the cough.

* * * * *

"I am sure that the more whooping-cough is treated as a *spasmodic* rather than an *inflammatory* affection, the greater will be the success of our practice, and the less the mortality from that disease."

ART. 156.—*On Acute Peritonitis in children at the breast.* By Dr. ISIDORE HENRIETTE, Physician to the Foundling Hospital at Brussels.

(*Archiv de Méd. Belge*, Aug. 1853; and *Dublin Quarterly*, Feb. 1854.)

The frequent occurrence of affections of the serous system in infants at the breast must strike the physician who makes the diseases of children the principal subject of his observation and practice. The peritoneum, the pericardium, the pleura, the membranes of the brain, present in turn, and more frequently than is generally supposed, pathological changes which bear witness to a special tendency in these exhalant tissues to become affected in children at the earliest age. In stating that the diagnosis of these diseases, with the exception of meningitis, the symptoms of which are most frequently sufficiently evident, is obscure, I do not mean to assert that inflammation of the peritoneum, pleura, or pericardium, is only recognisable after death, or that the functional disturbances, to which peritonitis in particular

gives rise, are beyond our recognition; still their recognition requires close attention on the part of the physician. I shall, therefore, endeavour to remove the latter disease from the obscurity which surrounds it, both by collecting and arranging the materials for its diagnosis, which are to be found scattered in the observations of writers on the subject, and by describing the results of my own experience. I shall finally point out the characters which distinguish it from enterocolitis, a disease which, it is well known, is very frequent in children at the breast, and with which peritonitis may most easily be confounded, as occurred in the child who was the subject of the first observation I shall presently report.

In the first place, if we endeavour to ascertain the cause of idiopathic peritonitis in young children, we are soon at a loss, and it is not one of the least singular features of this affection that it appears with unexpected suddenness. It is well known that in the adult, spontaneous peritonitis is rarely observed, and that it is ordinarily met with only in connexion with the puerperal state, traumatic lesions, perforations of the digestive tube, &c. Its etiology is, therefore, most uncertain; and I shall just now show that in the two cases in infants which I had under my care in the hospital, it was impossible to trace them to a cause which did not leave too much room for suppositions and hypotheses, and that in particular there was no trace of erysipelas or inflammation observable about the umbilical cicatrix. This it is important to note. A coincidence between my two cases and those observed by Bouchut (I do not think it was anything else) appears to me, however, worth pointing out: the one instance that of an infant at the breast, suffering from syphilis, and submitted to the mercurial treatment, as in my first case; the other that of a child affected with an erratic erysipelas, as in my second case. Are we to see in this analogy anything but a coincidence, an accidental occurrence? Although such language is scarcely scientific, and may be at variance with certain opinions, I am strongly inclined to believe that it is correct. Doubtless, it would be very important to ascertain the cause of a disease so rapidly fatal, because we might then be able to remove children from the influences which give rise to it; but that is not the question which I wish to elucidate; my principal object is, to enumerate the symptoms I have noted, with a view to obtaining a positive diagnosis, to establish the signs, hitherto, in spite of modern labours, imperfect, of an affection which, as I have just said, is, nevertheless, frequent. In the adult the symptoms of acute peritonitis are most characteristic; it is difficult to mistake them; they are so clear that, except with such inexperience as can only occur in the merest tyro, it is almost impossible not to make an accurate diagnosis. Does the same hold good in children at the breast? No. Here there is no information to be derived from the patient; nor does the disease reveal itself to our senses, as in the adult, in a contracted countenance, and a small, compressed, and peritoneal pulse; there is, indeed, pain on pressure, and tumefaction of the abdomen; but these two morbid manifestations belong equally to diseases of the intestinal tube, and it is, nevertheless, on their existence that the diagnosis is, in great part, founded. It is, then, quite necessary to define, accurately, the conditions of their presence or

absence, their intensity and progress in the peritonitis of nurslings, in order to distinguish the latter affection from acute gastro-colitis.

Peritonitis in children commences suddenly; we do not know whether it is, as in adults, preceded by rigors; but this we know, that, threatening in its first appearance, it is not preceded by any premonitory symptoms. The children I have had an opportunity of observing enjoyed a comparatively satisfactory state of health up to the moment in which the peritonitis set in. They had not previously presented anything unusual. Entero-colitis begins less abruptly; the infants refuse the breast, or take it with indifference some days before the appearance of the disease, intestinal gurglings supervene, and the alvine discharges become disordered.

IN PERITONITIS.

Tenderness of the belly is excessive, as it is in any disease of the abdominal organs; the infant screams out on the least pressure.

Swelling of the abdomen occurs with great rapidity; the belly becomes inflated, so to speak, under our eyes, from the very commencement of the peritoneal inflammation, at the same time that dulness sets in over the lower or pubic part.

Vomiting is rare, and takes place only at the commencement; the vomited matters are unmixed, perfectly green, and stain the linen on which they are discharged.

Constipation is a symptom which I have observed in the two cases I have noted.

The face scarcely changes; the eyes are more than usually fixed; and the children preserve their plumpness.

The little patients remain almost motionless, and cry when they are stirred.

Respiration is perfectly thoracic, and very much hurried; the inspiratory movements are incomplete and limited, as described by Bouchut.

Such are the most prominent symptoms I have observed. They are at variance with some of those described by Billard, almost the

IN ENTERO-COLITIS.

The abdominal sensibility is less acute; a certain amount of pressure may even be exercised without producing cries.

The tumefaction of the abdomen takes place less rapidly, and almost always in the ratio of the intensity of the intestinal inflammation.

Vomiting is more frequent, and more continued; the matters ejected are almost always mixed, and are of a yellowish-green colour.

Diarrhœa is almost constantly present, or at least the motions are curdled, greenish, and heterogeneous.

The face rapidly becomes wan, the eyes and mouth are encircled with blue, emaciation progresses quickly.

The children frequently draw up their legs over the abdomen.

The same symptoms are produced, but with much less intensity. The diaphragm does not remain, as in peritonitis, motionless and passive.

only physician who has paid special attention to peritonitis in children at the breast, and who has given a description of it at all approaching to completeness, as, for example, the distortion of the features, and the nature of the matters vomited.

To some it may, perhaps, appear strange that I have not noted the signs furnished by an examination of the general symptoms, and of the pulse in particular. I have omitted doing so because these phenomena have not differed from those presented by any ordinary pyrexial affection. I shall say nothing of the treatment of this formidable malady, except that I have derived so little advantage from the employment of antiphlogistics and emollients that I intend, when I next have occasion to treat peritonitis in young infants, to combine a mercurial treatment with the antiphlogistic, following in this respect the practice and the experience acquired in the case of adults. I am far, however, from being sanguine as to the final result of this combined plan, for death ensues so rapidly that I can scarcely conceive of therapeutic agents having time to take effect.

REPORTS
ON THE
PROGRESS OF THE MEDICAL SCIENCES.
January—June, 1854.

THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

I.

REPORT ON PRACTICAL MEDICINE, &c.

1. *Reports on Epidemic Cholera, drawn up at the desire of the Cholera Committee of the Royal College of Physicians.* By WILLIAM BALY, M.D., and W. W. GULL, M.D. (London, Churchill, 1854; pp. 565.)
2. *On the internal use of Chloroform in Cholera.* By Dr. HARTSHORNE. ('American Journal of Medical Sciences,' January 1854.)
3. *The principles upon which the treatment of Cholera should be based.* By J. SNOW, M.D., F.R.S. ('Medical Times and Gazette,' 25th February, 1854.)
4. *On the use of Iodine in Cholera.* By Dr. BUCHANAN. ('Glasgow Medical Journal,' April 1854.)

1. The reports on Epidemic Cholera drawn up at the desire of the Cholera Committee of the Royal College of Physicians consists of two parts—the first, on the cause and mode of diffusion of the disease, by Dr. Baly; the second, on the morbid anatomy, pathology, and treatment of the disease, by Dr. Gull.

The facts upon which these reports are based are supplied, principally but not exclusively, by upwards of 400 members of the profession, in answer to the letters addressed to them by the Cholera Committee of the College.

(a) Dr. Baly examines the several facts which come within his province with reference to the six different theories which may be said to express the chief varieties of opinion relative to the cause and mode of diffusion of the disease.

"The *first* theory is, that the disease spreads by an 'atmospheric influence or epidemic constitution,' its progress consisting of a succession of local outbreaks, and that the particular localities affected are determined by certain 'localising conditions,' which are, first, all those well-known circumstances which render places insalubrious; and, second, a susceptibility of the disease in the inhabitants of such places, produced by the habitual respiration of an impure atmosphere.

"The *second* theory, following the analogy of diseases known to be due to morbid poisons, regards the cause of cholera as a morbid matter which undergoes increase only within the human body, and is propagated by means of emanations from the bodies of the sick, in other words, by contagion.

"The *third* theory—that propounded by Dr. SNOW—gives a more specific form to the doctrine of contagion. It supposes that the poison

of cholera is swallowed, and acts directly on the mucous membrane of the intestines, is at the same time reproduced in the intestinal canal, and passes out, much increased, with the discharges; and that these discharges afterwards, in various ways, but chiefly by becoming mixed with the drinking water in rivers or wells, reach the alimentary canals of other persons, and produce the like disease in them.

"The *fourth* theory also assumes that the cause of cholera is a morbid matter or poison, but supposes that it is reproduced only in the air, not within the bodies of those whom it affects, and that its diffusion is due to the agency of the atmosphere.

"The *fifth* theory is a modification of the fourth. It admits that the cholera matter is increased by a species of fermentation or other mode of reproduction in impure, damp, and stagnant air, but maintains that it nevertheless is distributed and diffused by means of human intercourse; it being carried in ships and other vehicles, and even in the clothes of men, especially the foul clothes of vagrants and the accumulated baggage of armies.

"The *sixth* theory combines the second and fourth, assuming that the material causes of the disease may be increased and propagated in and by impure air, as well as in and by the human body."

The result of this examination is that that theory is alone supported by a large amount of evidence which regards the cause of cholera as a matter increasing by some process, whether chemical or organic, in impure or damp air, and which assumes that this matter is distributed and diffused by means of human intercourse as well as by contamination of the air.

It does not appear, however, that all difficulties are cleared away by this conclusion. We can very well understand that a filthy and foul locality is a necessary nidus for the production of the cholera poison, and that in this point of view cholera is an endemic rather than an epidemic disease; but we have more difficulty in supposing that the human body may not also be a nidus, and this difficulty is necessarily increased by the conclusion respecting the nature of the cholera poison; for if this poison be organic, and disseminable by human intercourse, it is difficult to understand why it should not thrive within the body as much as any other infectious morbid germ.

What, however, is of greater importance than any speculations as to the ultimate cause of the disease, is the question of infection. What light does the Report throw upon it? Dr. Baly answers—

"Amongst the eighty-four communications relative to this topic, there are thirty-two in which the writers either distinctly maintain that the disease is not contagious or infectious, or evidently lean to the adoption of that view, and seven in which the contagious or infectious nature of the disease is asserted in an unqualified manner. On the other hand, in fifteen of the replies received by the Committee, the writers advocate, or at least admit, the probability that cholera is propagated in more than one way; in twenty-four no opinion is expressed, although in several of these the facts communicated are so stated as to show that the writers would not altogether exclude infection of some kind from the modes of diffusion, yet clearly regard it as only of partial influence; and

in six other papers, it is simply stated that the disease is communicable under some circumstances, or that instances of infection have been observed by the writers."

The voice of the Report is clearly in favour of infection, and the conclusion is that human intercourse, foul ships and barges, bodies of troops, dirty vagrants, and foul clothes are the main means by which the infection is carried from one country to another, and from one town to another. Quarantine and sanitary cordons, however, are not recommended.

"Quarantine can no longer be adopted as the means of preventing the entrance of cholera into England; for it is incompatible with the present state of commercial intercourse, and with the well-being of a commercial country. Moreover, quarantine has undoubtedly often failed of its object, partly from its being evaded by the crews of infected ships; partly, perhaps, from the ships being placed so near to habitations on shore, that the infected air of the ship would be carried to them by atmospheric currents; and in some cases, probably, because clothes still containing infectious matter were conveyed on shore during, or subsequent to, the period of quarantine.

"For similar reasons sanitary cordons around towns are now impracticable, and have at former periods often, though apparently not always, failed to prevent the diffusion of cholera.

"But if the ordinary regulations of quarantine and sanitary cordons are relinquished, it is the more desirable to adopt other measures which shall oppose some obstacle to the importation of cholera, and to its propagation from one town to another in this country.

"It cannot be doubted that ships are more or less fitted to convey the disease or its cause, from port to port, in proportion to their want of cleanliness, defective ventilation, and over-crowded state, and that if these evils, of which the two former are so flagrant in the smaller trading vessels, and the two latter in ships carrying passengers, could be removed, the danger of the importation of cholera would be greatly lessened. While, therefore, it is much to be desired, on general grounds, that measures should be adopted for inculcating and enforcing attention to cleanliness and free ventilation in the whole mercantile marine, the especial application of measures of this kind to ships coming from ports where cholera prevails, as far as may be practicable, is imperatively called for. A close inspection of all such vessels should be made on their arrival in port; and it would not be unreasonable to require that, in consideration of the restrictions of quarantine being abrogated, there should be brought with each ship coming from an infected port an official certificate of its having been inspected, and found cleanly and not overcrowded, and the crew healthy, at the time of its sailing.

"On the arrival of ships having persons ill of cholera on board, or having had deaths from that disease during the voyage, more active measures must be adopted; and the best that have been recommended seem to be: 1, the removal of the sick to a hospital ship, moored at a distance from the other shipping in the harbour, or to a special hospital in an isolated and airy situation on shore; 2, permission to the rest of the crew to land after exchanging their dress for fresh clothes provided from the shore; 3, the thorough exposure of all articles

of dress and baggage to the air and disinfecting agents before they are removed from the ship ; and 4, the thorough cleansing of the ship itself, with the free use of disinfecting agents in every part of it, but especially in the parts occupied by the crew and passengers, or their baggage.

"If, notwithstanding such precautions as these, cholera find its way into the country, then the low lodging-houses frequented by vagrants and the vagrant-wards of workhouses should be narrowly watched. For these especially are the places in which the disease is fostered, and whence it seems to be distributed widely to other localities. In these establishments, then, the most scrupulous cleanliness and free ventilation should be maintained, and even the personal cleanliness of the inmates, as far as possible, enforced.

"When cholera appears in the places referred to, or within dwellings of the poor, intercourse with the surrounding population of course cannot be interdicted ; but still it is possible to adopt measures which would not only check the extension of the disease among the inhabitants of the infected houses, but greatly diminish the risk of its propagation to other localities. Of these, the most important is the provision of spacious and well-ventilated buildings in airy dry sites, for the reception of the inhabitants of the infected spot, while their dwellings are cleansed and disinfected. These 'Houses of Refuge,' it cannot be doubted, have saved many lives from destruction by cholera, both in this country and on the Continent. No considerable town should be without one ; and several should be prepared in the environs of the larger cities.

"The 'Houses of Refuge' would receive the healthy, but for those already labouring under cholera other asylums must be found.

"There has been much difference of opinion respecting the desirableness of establishing Cholera Hospitals. But it surely cannot be disputed that those struck with cholera amongst the poor ought to be carried to some hospital, if they are at all in a fit state to be removed. They cannot be properly treated in their homes, and the mere change to a purer air offers them a better chance of recovery. Moreover, in the rooms in which the poor are struck with cholera, those who nurse them, and in a less degree those who visit them, are exposed to danger, probably not from contagion, but in most cases from the pestiferous atmosphere of the locality ; while, if the sick are placed in the spacious and well-ventilated ward of a hospital, nearly all danger from approaching them is at an end. Wherever, therefore, general hospitals do not exist, or cannot afford sufficient space, Cholera Hospitals should be established."

(b) Dr. Gull's part of the Report is arranged under the three heads of morbid anatomy, pathology, and treatment, and under each of these heads much interesting information is collected together. Of this information, that which bears upon the treatment is at the same time most novel and most practically useful.

Dr. Gull is of opinion that facts scarcely warrant the generally received belief in the paramount importance of stopping premonitory diarrhœa as a means of preventing cholera.

"The amount of success obtained by early treatment is not yet determined ; there is a general opinion that it was very great, but this must be received with some limitation, as the facts upon which it is founded

are not unequivocal. By far the larger number of cases of diarrhœa would probably never have passed beyond this stage if no medicines had been administered; and, on the contrary, in many instances the symptoms were uninfluenced by any treatment, and fatal collapse came on in spite of every effort to prevent it.

“Notwithstanding this uncertainty, the general results of preventive measures were apparently very favorable, as shown by the small proportion of cases which passed into the severer forms of the disease subsequently to early treatment.

“Although this is sufficient to establish the great practical importance of house-to-house visitation amongst the poor, the results at present obtained indicate a degree of success which an exact scrutiny of the circumstances does not permit us to infer.

“This system was not brought into operation in the metropolis until the first week in September, 1849, the period at which the mortality had reached its acmé, the disease having already, on the 7th of September, numbered 13,520 victims. We cannot, therefore, think with Mr. Grainger that the uniform success which attended the preventive system in all parts of London was independent of the natural decline of the epidemic.

“Epidemics cease at last, as fire does, from the want of combustible materials; and on this point we may quote from the communication made to the College by Dr. Burrows:

“‘According to my experience,’ he says, ‘the facility with which the serous diarrhœa may be checked depends mainly upon the period of the epidemic when the treatment is adopted. Those remedies which are powerless in the height of the epidemic in any locality, will prove efficacious towards its decline. Thus, cases of serous diarrhœa, with symptoms of exhaustion short of collapse, appeared, in spite of unremitting attention, to be quite uncontrollable in the month of July; whilst cases of equal urgency at the time of admission, in the month of September, were controlled with a facility which often quite astonished me when I reflected upon my want of success at an earlier period of the epidemic.’

“On comparing the curve indicating the decline of the epidemic in the whole country, in the autumn of 1849, with that for London in particular at the same time (see the maps in the Registrar-General’s Report), there is the closest coincidence between them; from which we may conclude that the causes in operation were the same in both, and hence we cannot attribute the diminution of the mortality in the latter, in any great degree, to the interference of preventive treatment.

“The following are the results of the house-to-house visitation in the metropolis, from September 1 (4?) to October 27, 1849:

| Cases of Diarrhœa discovered. | Cases approaching Cholera discovered. | Cases which passed into Cholera after treatment. |
|-------------------------------|---------------------------------------|--|
| 43,737 | 978 | 52 |

“The town of Dumfries is referred to in Dr. Sutherland’s report as having afforded a striking instance of the advantages of a house-to-house

visitation, but the same objection obtains as before. It was not until the 10th of December, 1848, that the system was begun, and not until the 13th that it was in efficient operation, when 250 persons had already died in a population of 10,000. On referring to the Table accompanying the Report, it appears that the mortality had reached its highest point nearly a week earlier than the above date, and was already declining when the preventive system was instituted.

“In the case of Glasgow the same objection does not apply, as the visitation system was commenced at an earlier period of the epidemic, and so efficiently carried out that, in the words of the Report,

“‘Whether we consider the extent of the machinery employed, or the zeal with which it was sustained, or the expense cheerfully incurred, no provision more munificent was ever made for the relief of a great public calamity than that carried out by the humane and enlightened citizens of Glasgow.’

“We are therefore greatly interested in learning the result. The epidemic began on the 11th of November, 1848, and by the 26th of December there had been 214 fatal cases. The house-to-house visitation was instituted ‘in the city parishes about the 26th or 27th of December, and in the barony parishes a day or two later.’ Notwithstanding this the mortality steadily increased for a fortnight, and maintained a high rate for nearly a month, and even then declined but very slowly; the deaths after the house-to-house visitation was begun being 898, and in the whole epidemic 1112.

“Dr. Sutherland, however, concludes that a very marked effect was produced upon the comparative mortality of the disease even in this instance. He compares the percentage of deaths with the percentage of recoveries, as deduced from the whole number attacked at different periods of the epidemic, and finds that after the preventive system was in operation the ratio of deaths to those attacked was greatly diminished. But as the latter series is somewhat arbitrary, and would of necessity be more numerous when every case was recorded, the conclusions thus drawn do not inform us so certainly of the value of the remedies employed, as does the absolute rate of mortality.

“The following are the general results of the preventive measures employed for the city and barony parishes of Glasgow :

| Parishes | Premonitory Cases. | | | | Cholera. | |
|----------|-----------------------------|----------------------------|--------------------------------------|----------------------------------|--|----------------|
| | Applicants to Dispensaries. | Diarrhœa Cases discovered. | Rice-water Purging Cases discovered. | Total Premonitory Cases treated. | Premonitory Cases passed into Cholera. | Cholera Cases. |
| City . | 3066 | 2736 | 473 | 6215 | 15 | 1231 |
| Barony | 3113 | 3255 | 506 | 6874 | 12 | 1003 |
| Total | 6179 | 5991 | 979 | 13,089 | 27 | 2234 |

“A large amount of evidence bearing upon this subject is further contained in the reports by Mr. Grainger and Dr. Sutherland, which, after all the abatements in it, arising from the sources of fallacy indicated

above, is yet sufficient to place the preventive system in the first position of importance as a measure for counteracting the development of the disease into its severer forms. It cannot be a matter of doubt that the earlier the disease is encountered, the greater, in an infinitely high ratio, are the advantages under which medicines are employed to counteract it. This statement is confirmed by the communications received by the College."

Speaking of the treatment of actual cholera, Dr. Gull makes this very important remark:—"Under various and opposite plans, the recoveries, even in severe cases, averaged from 45 to 50 per cent., according to the period of the epidemic; they should therefore exceed the highest of these numbers before they can be adduced in proof of the value of any particular method of treatment" (p. 176). In our opinion, much obscurity in this subject has arisen for want of a rule such as this.

The opinions respecting the principal modes of treatment already tried are for the most part vague and unsatisfactory.

"In general, no appreciable effects followed the administration of *calomel*, even after a large amount in small and repeated doses had been administered. For the most part it was quickly evacuated by vomiting or purging, or, when retained for a longer period, was passed from the bowels unchanged. Salivation but very rarely occurred, and then only in milder cases. We conclude that it was inert when administered in collapse; that the cases of recovery following its employment at this period were due to the natural course of the disease, as they did not surpass the ordinary average obtained when the treatment consisted in the use of cold water only" (p. 177). . . . The results of the treatment by *calomel*, *opium*, and *stimulants* "were unfavorable, and not altogether so indifferent as when *calomel* was exhibited by itself" (p. 185). . . . "The expectations excited by the early success apparently obtained by the use of *chloroform* were not realised in its subsequent employment. It not unfrequently allayed the vomiting and cramps, but did not in any degree arrest the course of the disease" (p. 185). . . . "The obvious requirements of the system, and the urgent thirst, were sufficient indications for the use of diluents, and the experience of the profession appears to be uniformly in favour of permitting patients to gratify their appetite for them. *Cold water* was generally preferred, and good results were often observed when it was taken freely in repeated and copious draughts, although it excited vomiting. In smaller quantities, and iced, it was refreshing to the system, and allayed the irritability of the stomach. *Ice* was generally grateful to patients in impending or approaching collapse, and probably acted favorably upon the mucous membrane, and served to arrest the discharges" (p. 195). . . . "We have no evidence that *salines* possessed any influence over the local morbid action in the mucous membrane. It was not until this surface had in part recovered its function of absorption that any good resulted from their employment. When given at an early period, and in a more concentrated form, they appeared to favour the discharges" (p. 196). . . . "In the early stages *emetics* were sometimes of use, and in collapse the effects were equivocal" (p. 198). . . . *Bleeding* "was not much resorted to in the

last epidemic, and the communications to the College contain little mention of it." "Its general inadmissibility is to be inferred from its almost entire disuse in the last epidemic" (p. 200). Respecting various *specific remedies*, such as quinine, strychnia, arsenic, sesquichloride of iron, nitrate of silver, nitrous acid, chlorine water, sulphur, sulphuric acid, bichloride of mercury, charcoal, &c. &c., it is said that "it is notorious that the results have been discouraging, notwithstanding the bold assertions to the contrary. The communications to the College contain no data for determining the inquiry, nor is anything deserving the name of evidence in favour of the value of these means to be gathered from the numerous journals and published treatises in this country or on the Continent" (p. 204). The application of *heat to the surface* in various ways has been largely tried, and "it appears to be the uniform experience of the profession that in collapse this means is but of little value." "The whole tendency of the evidence yet acquired for the treatment of this stage is towards a more restricted use of powerful excitants of this kind" (pp. 205-6). "The results of the cold affusion appear to have been, on the whole, more satisfactory than from the hot-bath" (p. 206). It is thought that saline injections into the veins have not been tried with all those precautions which are necessary to ensure success, except in very few cases. They were not much tried during the last epidemic, and when they were the results (as in 1832-33) were generally unfavorable.

2. Dr. Hartshorne speaks very highly of the good resulting from the internal administration of chloroform in severe cases of cholera, but he does not give any particulars from which an independent opinion may be formed. The chloroform, however, is not given singly, but in association with camphor, opium, essential oil, and alcohol, in the following proportions:—Chloroform ζij , tincturæ camphoræ and tincturæ opii, aa ζiss , olei cinnamomi $\mathfrak{m} viij$, alcohol ζiij , M. The dose of this "chloroform paregoric" is from 5 to 30 minims, or even more. The late Professor W. E. Horner, appears to have suggested the chloroform in this combination, and to have used it with considerable success.

3. In Dr. Snow's opinion, the absence of settled opinions respecting the nature of cholera was the cause of the various and contrary plans on which it was treated. In the greater number of epidemic or self-propagating diseases the morbid poison entered the blood in some way, and after multiplying itself during a period of so-called incubation, it affected the whole system, the illness commencing by fever and other general symptoms. Cholera, on the other hand, commenced with an effusion of fluid into the alimentary canal, without any previous illness whatever, and the subsequent symptoms were the result of the change in the blood occasioned by this effusion of its watery part. The analysis of the blood of cholera patients, performed by Dr. O'Shaughnessy, Dr. Garrod, and others, proved that its thick and tarry condition was caused by the loss of a great part of its water, together with a portion of its saline constituents. The physical state of the blood prevented it from passing through the capillaries of the lungs, except in very small quantity, and these occasioned the

symptoms of asphyxia; whilst the arteries throughout the body, being almost deprived of blood from the same cause, produced the coldness and other symptoms of collapse. These circumstances indicated that the immediate action of the cholera poison was confined to the alimentary canal, and this view was confirmed by the circumstance that all the general symptoms could be removed for a time by the injection of a weak saline solution into the veins, which merely replaced the portion of the blood which had been lost, and could not remove the effects of a poison circulating in that fluid. The preliminary diarrhœa with which the greater number of cholera cases commenced, could generally be cured by the ordinary remedies for diarrhœa, which could not have any effect on a poison circulating in the blood. In Dr. Snow's opinion, the cholera poison entered the alimentary canal by being accidentally swallowed, and there propagating itself, is discharged in the evacuations; and this view, and the nature of the disease, causes him to suggest the following principles of treatment:

1st. Medicines should be chosen which have the effect of destroying low forms of organised beings, and of preventing fermentation, putrefaction, and other kinds of molecular change in organic matter. Prepared animal charcoal, sulphur, and creasote were amongst the agents which deserve a more extended trial.

2d. The remedies should be administered with a view to their action in the stomach and bowels, and not to their being absorbed.

3d. They should be given in such quantities and in such a form as to ensure, as much as possible, their application to the whole surface of the alimentary tube.

4th. These medicines should be continued till there was no danger of a return of the purging.

5th. It was useless and injurious to attempt to bring the patient out of the state of collapse by stimulants and the application of heat, and they should give watery drinks, and be content to wait till they were absorbed, unless in desperate cases, in which it might be desirable to inject into the blood-vessels a weak saline solution, resembling the portion of the blood which had been lost.

4. Considering that iodine, when administered medicinally, never passes out of the system by way of the intestines, it occurred to Dr. Buchanan that he might put a stop to the intestinal serous hæmorrhage of cholera by impregnating the blood freely with this substance. With this view he has given iodine in several cases of this disease, and his friends have done the same, and, in his opinion, the results have not disappointed his expectations. From 9 to 16 grains of iodine, in the form of iodide of starch, were given in the course of the twenty-four hours. It must be observed, however, that opium formed a part of the treatment in these cases.

Die Heilung und Vezhütung des Cretinismus und ihre neuesten fortschritts. Von Dr. GUGGENBÜHL. (4to, Bern and St. Gallen, 1853. pp. 121.)

The Cure and Prevention of Cretinism. By Dr. GUGGENBUHL.

It is now more than fifteen years since Dr. Guggenbühl conceived

the idea that cretinism was not a hopeless malady, and set himself to prove the correctness of his conception in his Cretin Asylum on the Abendberg; and ever since this time he has laboured hard, and travelled far and wide, in furtherance of his benevolent object. To this cause the idiot asylums of this and other countries owe their origin. Dr. Guggenbühl is indeed the author of a movement which entitles him to a very eminent rank among the benefactors of mankind.

The experiments on the Abendberg have shown that, in many instances, the cretin may be converted from a torpid, soulless clod, into an affectionate, intelligent, religious creature, fit to associate with human beings, and capable of earning his own bread, even by his intellect—for one of Dr. Guggenbühl's former pupils is now discharging the office of a schoolmaster. They have also shewn that the rickety, or otherwise diseased frame, which is always associated with cretinism, and which association makes the principal distinction between the cretin and the idiot (whose mind alone is usually at fault) may be removed along with the intellectual and psychical torpor. These experiments, indeed, are full of significance to every one, and especially to parents, for if so much may be done for the cretin, what may not be done for the healthy child when he is withdrawn from those localities in which health is impossible, and when care is taken to train it up after a more rational method.

The work before us is a Report which was read before the Swiss Society of Naturalists. It consists of two parts—the first is a general history of cretinism in different countries, and of the several steps which have been taken to remedy the evil; the second is an account of the cretin-asylum on the Abendberg, of the principles of treatment adopted in that establishment, and of several cases which have been treated there, or which are now under treatment. Our space only allows us to glance at the contents of the latter part.

Change of locality from the foul, stagnant air in which the disease originates, to the pure bracing air of the mountains, is a prime essential in the cure and prevention of cretinism; and hence the grand advantage of the Abendberg. This mountain is 3,500 feet above the plain of Interlachen, which is itself 1,800 feet above the level of the sea. The immediate locality is a green open terrace, on the southern side of the mountain, sheltered without being hemmed in by neighbouring forests, and having before it some of the most magnificent scenery in the world—the green plain of Interlachen and the lakes of Thun and Brienz far down below, and the Jungfrau and other magnificent mountains in the background. The scene is wanting in nothing which can charm the eye and excite the imagination. In the asylum all those means are put in requisition which kindness and skill can suggest as likely to improve the bodily health, such as good plain food, warm baths, stimulating frictions to the skin, galvanism to the torpid muscles, various tonic remedies, and eventually gymnastic and other appropriate exercises. Evacuating and lowering measures are avoided in all cases. At the same time the business of education is patiently and actively attended to. The peculiarities of the case are carefully noted, and that sense is most acted upon which is least dormant. In turn the several senses are excited by their appropriate stimuli until

the faculty of perception is awakened, and step by step the eye, the ear, the tongue, the nose, the finger are taught to perform their proper offices. In time the cretin is made acquainted with the mysteries of letters and figures, the letters or figures being first written with phosphorus in a dark room, if the eye does not readily catch the simple black lines of the printed surface. Much time and patience are of course expended in this process, and it is often so long before the attention can be fixed at all, that the cure seems to be hopeless, but once fixed upon anything, and the progress is usually rapid, the mind acquiring large supplies of new vigour day by day, until at last, as we have already said, the poor cretin is transformed into an affectionate, intelligent, religious, and useful member of society.

In illustration of this, we take one of the many cases which are related in the volume.

F. M.—, is the youngest of five cretin children. He is the child of healthy parents, who have lived all their lives in a damp shaded valley, where cretinism was very common. At birth, his head was very large and ill-formed, and his body and limbs small and wasted. For the first three years he made some progress, and learnt to stand and walk, and to say a few words; and then his mental and bodily development became stationary. Three years after this, he came to the Abendberg. At this time there was the greatest contrast between his head and body, nearly half of his entire height, which was only 37 inches, being made up by the former. The head was cold and pendent, the tongue thick, the complexion pale, the body thin and wasted, the belly protuberant, the legs rickety, the appetite immoderate, the speech limited to a few words, and the power of walking scarcely present. His intellect was so dull that many months elapsed before he could be taught to distinguish between his hand and his finger. After admission his bodily health became greatly improved; but a whole year passed away before he began to manifest any decided sign of mental improvement. Then he began suddenly to speak, and to attend to what was passing. During the first two years he grew only half an inch; but after this time he grew more rapidly, and a good deal of the original disproportion between the head and the body disappeared, the head at the same time acquiring a more natural form than it had at first. Contemporaneously with this change the memory became awakened, and before long he was able to remember all the principal facts in connection with the geography of Switzerland. He also learned to read and write. Occasionally, however, the original torpor and apathy would return, and for the time he forgot everything which he had learnt; but these attacks became less severe and frequent, until they altogether ceased. Now he speaks two languages perfectly, and is completely restored. (p. 65.)

Practical observations on Gout and its complications, and on the treatment of joints stiffened by gouty deposits. By T. SPENCER WELLS, F.R.C.S., &c.—London: Churchill, 12mo, 1854; pp. 288.

“I do not attempt,” writes the author in the preface, “to produce anything like a systematic treatise on gout, or to give any lengthened description of the symptoms by which this disease is manifested in its

common forms. Sydenham, who suffered from it in his own person, has left us so accurate an account of his own feelings, that those not similarly qualified by personal suffering, who have followed in his path, have added but little to the knowledge he imparted. Those who wish to know what has been done since his time, will find the information they desire in almost any of the systematic works on medicine of which the British press has been of late years so prolific. My object is to impart some facts which will not be found in other books, and to make certain reflections upon these facts. I shall inquire, What is gout? what are its causes? How is it modified by rheumatism? How by syphilis? How does it show itself in the female? What are the various forms of internal or latent gout? And, lastly, what are the habits, diets, exercises, climates, and medicines by which gout may be kept off—which exert a curative influence, during an attack, in some of its various forms—which prevent a relapse, and which restore such of the tissues of the body as have been damaged by gouty deposits to their former healthy condition? It is with the last intention that I have principally employed the iodide of potassium, and I shall bring forward strong grounds for concluding that its efficacy is very great, and that it exerts a direct chemical action on gouty deposits which has escaped the notice of former observers.

“It may be thought by some that, as a surgeon, I am intruding somewhat upon the province of the physician in treating cases of gout, but I believe that the class of cases in which I especially recommend the iodide of potassium—cases of enlarged, stiffened, painful joints, surrounded by gouty deposits—are, in the present day, as frequently presented to the notice of the surgeon as to that of the physician; and not improperly, for the mechanical applications of friction, percussion, pressure, and the douche, constitute a most essential element in the treatment.”

The answers to these questions are for the most part satisfactory, and, what is no small merit, they are always clear and concise, so that the reader can be at no loss as to the author's meaning.

After considering gout and its causes, and gout as modified by rheumatism, Mr. Wells proceeds to consider gout as modified by syphilis. This subject is comparatively unbroken ground, and upon it much stress is laid. It is argued that gout is frequently modified by syphilis, partly because irregular gout is often accompanied by signs of constitutional syphilis, and partly because iodide of potassium, which is known to be an invaluable remedy in syphilis, is also found to be an invaluable remedy in the treatment of gout.

The chapter on gout in the female is of particular interest, for gout has generally been supposed to be confined to the male. It is argued that a certain vigour of constitution is essential to the establishment of an attack of acute normal gout, and that the various anomalous forms of the affection are chiefly owing to the want of this vigour. Hence, women are more likely to suffer from anomalous gout than men. Mr. Wells, however, contrives to detect the hidden malady in certain forms of dyspepsia, in many general and local nervous disorders, in irritable uterus, in leucorrhœa, and in deformed joints; and we have little doubt as to the correctness of his diagnosis. Still it would have been better if our author had distinctly stated

that he had detected lithic acid in the blood, or found the peculiar concretions of gout, or satisfied himself by the results of treatment; for without such statement some of his readers will perhaps doubt whether the diathesis in all these cases was of the character supposed.

After a chapter full of excellent remarks on the hygienic treatment of gout, there follows a chapter on the "cold-water cure," which will not fail to surprise some of the more strenuous sticklers for orthodox medicine.

"The 'cold-water cure,' " he begins, "may be said to hold an intermediate place between the natural and medicinal treatment of disease. So much real good has undoubtedly been effected by it in many varieties of chronic disease, chronic gouty affections among others, that it becomes necessary for the medical man to throw aside all that prejudice and aversion to the system which is derived from the conviction that it was originated by persons who had not received a medical education, and has without doubt been followed and practised by many persons with much quackery, and with but little discrimination, as a general cure for all diseases, and with much abuse of regular medical practitioners. We must overlook all this, and with the sincere desire to seize all the good to be in any way obtained for our patients, examine what really can be effected by the scientific application of the various processes the professors of hydropathy have practised with more or less judgment, or with more or less ignorance and boldness. It cannot be doubted that they have brought under our notice various powerful means of modifying the vital actions and conditions of the whole body, means, if not previously unknown, which at least were generally neglected by the profession, and still remain so to a very considerable and perhaps blameable degree."

Mr. Wells's opinions upon this subject have been formed after visiting some of the best-conducted hydropathic establishments in Germany, and after residing for two months at Malvern. He considers the "cold-water cure" as dangerous in acute gout, in gouty febrile excitement, and in those chronic cases in which the power of resisting cold is defective, as shown by general chilliness after sprinkling or dashing the surface of the body with cold water, or by the failure of moderate friction to produce a genial glow after the cold plunge bath; also in those cases in which the urine and joints are loaded with phosphates—until, at least, a beneficial change has been effected by the use of appropriate medicines. On the other hand, he considers the water-cure desirable if the case is purely chronic, and if the powers of reaction are good. Mr. Wells, however, does not transfer all his patients to heterodox practitioners, and how he acts under these difficult circumstances he proceeds to explain.

"If any one can, without great inconvenience, without inducing mental anxiety by absence from important concerns or near relations, absent himself completely from all the causes which have contributed to bring on his disease, from temptations to luxurious living and sedentary habits, from too great mental exertion, from the toils of the senate, committee, bar, pulpit, or exchange,—if he can thus effect a perfect change in all his habits of life, go to a strange country or district, among

new faces and fine scenery, where he will find interest without excitement, be induced to take active exercise, if not incapable of doing so, and in the latter case be subjected to the best applications of passive exercise (although it is rare that sawing or chopping wood, or some form of gymnastic exercise may not be practised, when walking or riding on horseback are impracticable), where perspiration and bathing will promote free excretion from the skin, and draughts of cold water will dissolve and carry off morbid matters from the blood, and provoke a natural appetite for natural food; when he leaves off a system of drugging which has often been injurious, and where confidence in a new system induces hope and cheerfulness, there can be little doubt that, under a skilful and cautious adviser, such a proceeding would be the one of all others most likely to effect a rapid restoration of health and strength.

“There are certain cautions, however, which must be observed in all these establishments, the principal of which is not to ‘overdo the cure,’ as many are apt to do. A few glasses of cold water daily are useful and necessary, especially where sweating is profuse, but the enormous quantities some persons are induced to swallow are never necessary, and must prove more or less injurious. Again, one cold bath daily, or the application of the douche or wet compress, is generally followed by tolerably permanent reaction, a disposition for exercise and good appetite; but if these baths, douches, or compresses, become the business of the day, the powers of the system are overtaxed, debility is produced, reaction becomes more feeble, and the patient returns home in a worse condition than before he left. The grand object is to produce just so much cooling of the body as shall call the heat-producing function of the lungs into activity, and thus burn up, not only all the superfluous carbonised matter in the system, but such a proportion of the vital tissues as shall lead to a necessity for their repair by newly-deposited nutritive matter, and a necessity for the supply of this matter by the digestive organs. But this must not be overdone, or weak digestive organs will be unable to supply loss, and the process of animal combustion will be performed very imperfectly and at the expense of the organic tissues. In moderation, the same means which strengthen and renew the powers of the constitution, in excess impair or destroy them.

“Again, the frictions and other purely local means of modifying the conditions of diseased joints, &c., which in moderation are highly useful, when excessive, are both to be followed by inflammatory action, an acute attack, and certain mischief.

“Of all the different applications of hydropathic methods to chronic gouty patients, I am disposed to think the safest and most generally useful are the wet sheets as a means of affecting the system generally, and the wet compress as a local application. The wet sheet may be either used to produce simple reaction immediately on rising in the morning, or as a means of inducing continuous perspiration. In the former case, the sheet is wetted with cold water and thrown over the patient, rubbed upon him for a few seconds, active friction being afterwards employed with a rough dry towel. The person should then take some exercise, followed by breakfast. When perspiration is desired, the wet sheet is covered over the body, several blankets are folded over all,

probably an eider-down cushion thrown over this, and the person lies, for half an hour to an hour, taking cold water at intervals. It is common to take a cold bath after this, but I believe dry friction to be far safer and equally beneficial in gouty cases. The quantity of matter thrown off from the system in an hour in this manner is really surprising. It consists of water holding various salts and animal matter in solution. It is sometimes sufficiently acid to redden litmus paper, and in gouty cases probably very much resembles the analysis quoted by Dr. Simon (which may be seen at page 49). It is quite clear that as, notwithstanding the large quantity of liquid daily lost by perspiration thus induced, the body maintains or gains upon its former weight, that new matter is deposited in proportion, or in a larger proportion than that removed.

"The wet compress may be used to effect two different objects, either to produce cold and subdue inflammatory action, or to serve as a sort of fomentation, relaxing the vessels of the part, opening the pores of the skin, and thus acting upon the part as the wet sheet does upon the whole body. The cold effect is produced by repeatedly changing the wet bandage as often as it becomes warm, and in this form should be strictly avoided in all cases of gout. In the other case, the wet bandage is placed over the part, which is then covered by a piece of oiled silk or india-rubber cloth, and a flannel wrapper. The wet cloth very soon becomes warm and acts as a fomentation, often proving of great service, relieving the loaded vessels of a part, and allaying pain.

"The sitting-bath, shower-bath, and general douche, are seldom necessary or proper in gouty cases, but the local douche is often extremely useful.

"The quantity of cold water taken internally I should be disposed to leave entirely to the instinct of the patient, rather encouraging him, however, to drink freely whenever he felt disposed to do so, with the view of dissolving or diluting the saline or other injurious matters which exist in the blood in gouty cases, and then carrying them off by the kidneys and skin. When so much water is taken that it begins to be discharged from the mucous membrane of the intestines, it is time to check the quantity taken; the object being to promote free excretions without the derangement of the excreting organs. Thus, diarrhoea when it comes on, goes off spontaneously on the supply of water being diminished.

"Now the bath, the douche, the wet sheet, and the wet bandage, the diet, the draughts of cold water, the exercise, the friction, can all be carried on at the house of the patient under competent medical guidance, as well and often more conveniently than in any hydropathic establishment. All that is wanting to secure their equal efficacy is good will on the part of the patient, his understanding of the principles upon which the different methods are used, pure air, cheerful society, absence from all domestic troubles or cares, and anxieties of all kinds. That all this may be as readily obtained at home by our wealthier classes as in any hydropathic establishment, and even much more so, is so evident that it scarcely requires remark."

The remarks upon the medicinal treatment of gout, like those upon the hygienic treatment, are very excellent. Bleeding, purging, and

all lowering measures are objected to. Diluents, and hot-air and hot-vapour baths are trusted to for procuring perspiration. Iodide of potassium is preferred to all chemical solvents.

"But of all chemical solvents, I am disposed to regard the iodide of potassium as the most useful, as it has so great a solvent power on the lithate of soda, which is the most common impurity in the blood of gouty patients. A concentrated solution of the iodide dissolves the lithate of soda very readily out of the body, and to a much greater extent when the lithate is recently prepared and the solution is warm, but it has very little power of dissolving pure lithic acid. I have given it very extensively for the last thirteen years in almost all forms of gout, except during the acute attack, and in almost every case with the most encouraging results. I have tried it in doses, from eight grains three times a day to one grain daily in divided doses. I have had patients who have continued the latter small dose for several months, and after carefully watching the effects of discontinuing its use and returning to it, I have been convinced that the improvement in health which accompanied and followed its use was really connected with, or dependent on the use of even so small a quantity."

Colchicum is considered to be the specific which alone claims notice; and the tincture of the flowers is preferred to any other preparation, as less likely to cause sickness, depression, or purging. In this preference he follows Dr. Jones, physician to the late Duke of York (who first suggested the formula), and Sir James Clark. The dose given is small—10 minims three to six times a day, according to the urgency of the symptoms. Often a single drop is given with a single grain of iodide of potassium, and repeated three or four times a day; this treatment is continued for several months, special symptoms being in all cases met by special means.

The last chapter, which is on the treatment of joints stiffened by gouty deposits, is the most important in the book, for in it it is maintained that this condition is readily curable by a judicious association of general with local treatment. Here again Mr. Wells exhibits his eclectic disposition. He has already borrowed a leaf from the Hydropaths, and now he borrows another from their rivals the Kinesiotherapists (*v. Abstract*, vol. XVI, p. 285). Speaking on this subject, he says:

"I cannot direct attention too strongly to the efficacy of the combined effects of friction, percussion, vibration, and rotation, with the use of iodine ointments or baths, or the nitro-muriatic acid bath, provided an experienced rubber be employed, and the system be pursued with perseverance during a continuance of suitable constitutional treatment. The results frequently exceed all reasonable expectation. I have seen ankle joints, apparently perfectly stiff, which had lost all their natural appearance from swelling and thickening, and which had not been moved for many months, acquire nearly a normal shape, become diminished three inches or more in circumference, and admit of tolerably free motion in from six weeks to three months. I have seen patients who have been quite unable to walk without crutches, owing to this stiffness of the knee and ankles, put them aside and walk with a stick, which has also become unnecessary at last, and the former cripple has astonished all

his friends by walking and riding as freely as ever or nearly so,—and I am convinced that equally favorable results might be very frequently attained if the treatment I have recommended were more generally followed.”

Epilepsy, and other affections of the Nervous System which are marked by tremor, convulsion, or spasm. By CHARLES BLAND RADCLIFFE, M.D., L.R.C.P., Assistant-Physician to the Westminster Hospital. (London, Churchill, 1854, 8vo, pp. 144.)

The object of this work is to show that the several diseases which are mentioned in the title are always due to the *want* of that *stimulation* which naturally belongs to the living muscle, and that they are to be cured, if cured at all, by *stimulants*. In carrying out this object, the earlier pages are occupied with a sketch of the arguments by which, four years ago, the author endeavoured to show that muscular contraction, physiologically considered, is a *passive* phenomenon resulting from unresisted molecular attraction upon the *withdrawal* of the *stimulation* arising from the presence of nervous influence, blood, electricity, light, heat, or any other agency, physical or vital, belonging to the muscle.

I. In the preliminary considerations respecting the physiology of the subject, muscular contraction is examined as manifested in ordinary muscle, in the coats of vessels, and in the heart.

1. On the following grounds (among others) it is argued that the contraction which is manifested in ordinary muscle cannot be regarded as the result of any kind of stimulation.

An involuntary muscle is more prone to contract than a voluntary muscle, and yet, judging by the comparative fewness and smallness of its nerves, it is far less acted upon by nervous energy.

An involuntary muscle is more prone to contract than a voluntary muscle, and yet the voluntary muscle receives an infinitely greater supply of blood. The muscles of a hybernating animal are more prone to contract during the hybernating than during the active state, and yet the circulation at this time is so low as to be barely consistent with life. The muscles of a reptile are more prone to contract than the muscles of a mammal, and yet these muscles are distinguished chiefly by their paleness, that is, by their want of blood. Even *rigor mortis* may be relaxed by the injection of warm blood.

The investigations of MM. Dubois Reymond and Matteucci are equally opposed to the idea that muscular contraction is stimulated by electricity. These investigations show:—That there is a current of natural electricity in a muscle when at *rest*. That the evidences of this current *disappear* during contraction. That contraction is immediately provoked by the passage of a current of artificial electricity when this current opposes and neutralises the natural current; but that contraction is not provoked by the artificial current when this current coincides with and intensifies the natural current, until the circuit is broken and the artificial current suspended.

Nor is it by any means certain that muscular contraction is

stimulated by contact. Instead of exciting the stomach to contract, the food accumulates, and the stomach expands, until the appetite is satisfied, and contraction happens when the stimulus connected with the molecular changes of digestion is at an end. Instead of exciting the uterus to contract, the germ increases in size and the womb expands proportionately, and contraction happens when (apparently) the stimulus of increasing growth is at an end. It is not even certain that a needle stimulates contraction. The muscle does not always contract under these circumstances; and when it does, the contraction *may* possibly be due to the discharge of the electricity previously present in the muscle. The experiments of M. Dubois Reymond prove the existence of such a discharge; and the analogy between the structure of muscle and of the electrical organ of the torpedo, and between the circumstances attending the production of contraction on the one hand, and of discharge on the other, are in favour of this supposition. The facts, moreover, which have just been mentioned respecting the action of nervous influence, blood, and electricity, are opposed to the idea that the contraction is stimulated by the needle.

Similarly with regard to other agencies. Cold, which is the negation of heat, and not heat, favours contraction. Darkness, not light, favours contraction in the irritable cushions of the sensitive plant; and the same may be said of the iris, for it is more easy to suppose that the iris expands under the stimulus of light, and that the pupil is closed in this manner, than that it is drawn out by the contraction of sphincter fibres, which have no existence. This explanation is supported by the authority of Buchât; it equally accounts for the phenomena; and it harmonises with the known influence of light upon the sensitive plant. Again, carbonic acid, not oxygen, favours contraction in the muscular fibres of the air-passages. Oxygen, indeed, seems to provoke the very opposite of contraction, for under its influence the air-passages dilate and fill with air. Again, other non-stimulating agencies, such as opium or strychnia, favour contraction; and other stimulating agencies, such as alcohol or ether, oppose contraction.

It appears, therefore, that muscular contraction as manifested in ordinary muscle is due to the withdrawal of the vital or physical stimulation which was previously present in the muscle, and not to the impartation of any new stimulation.

It further appears that there is no reason why this contraction may not be due to common molecular attraction—that is, to the law of gravitation. It is, indeed, quite possible that the *semi-gaseous* constitution of the muscle may allow its particles to recede or approach to a much greater degree under the presence or absence of heat or any other stimulus, than is allowed by the physical constitution of a metal or any fixed solid. It is quite possible that this should be the case, for so unstable are the affinities of the muscular particles, that, for the most part, these particles resolve themselves into gases immediately after death.

2. A similar conclusion arises from a consideration of muscular contraction as manifested in the coats of vessels.

“Joy flushes the skin and fear blanches it; in other words, the

superficial capillaries expand when the nervous energy is exuberant, and shrink when it is deficient. When the blood is rich and stimulating, as in plethora, the vessels are red and full; when it is poor and watery, as in anæmia, they are shrunk and empty." For the same reasons, if the hand be held to the fire it becomes flushed; if exposed to cold it becomes pale. These phenomena appear to be utterly inconsistent with the idea that the muscular contraction of the vessel is caused by the stimulation of nervous influence, or blood, or heat; and others are not less so.

Arguing from the remarkable expansion which is caused by heat, in the dartos and in the ordinary subcutaneous cellular web, it is supposed, moreover, that the heat and other stimuli acting upon the vessels must cause a greater degree of expansion in the coats of the vessel (which contain a good deal of cellular tissue) than in the fluid contents of the vessel (which consist chiefly of water); that vacua may thus be left between the coats and the contents, and that consequently movements may result from the blood passing to fill these vacua, which movements are altogether independent of the heart. If, therefore, the hand be held to the fire, the vacua thus resulting from the excess of expansion in the vessels must necessitate a flow of blood to the part.

3. In the heart, also, the muscular contraction is supposed to be equally inexplicable on the supposition that it is the result of stimulation.

"The fact that the heart remains distended with blood during a full half of the time occupied in its rhythm, is a strong argument that the blood does not excite the ventricular systole. The histories of plethora and anæmia are to the same effect. In plethora the pulse is full and slow; in anæmia, empty and quick. In the one case, the heart fills to distension with rich blood, and the systole is deferred; in the other case, the heart takes in a small quantity of poor, unstimulating blood, and expels it immediately. The facts are the very opposites of what they ought to be if the blood excited contraction, for then there should be a small quick pulse in plethora, and a full slow pulse in anæmia. But they are just what they ought to be, if the blood provokes the heart to dilatation by its stimulant properties, for then the heart ought to dilate most, and the dilatation to continue longest, when the blood is rich and warm, as in plethora."

"Arguing from what takes place when the nervous energy is more or less depressed, as during the operation of fear, it may also be presumed that nervous influence favours the ventricular diastole and not its systole. Under these circumstances, the heart beats hastily, and yet little blood is propelled out of it. The beats are perhaps doubled, and yet the skin is cold and pale. Now, under ordinary circumstances, the double number of beats would propel a double quantity of blood into the vessels, and the skin would be hot and red, instead of cold and pale; and hence the probability that in this apparently anomalous condition of a rapid pulse and a pale skin, which attends upon fear, the chambers of the heart are diminished by the contraction of the walls, and that for this cause they receive and propel less blood than usual."

Upon attending more particularly to the phenomena of the heart's action, it appears still more improbable that the ventricular systole is caused by stimulation of any kind—and of the blood particularly. At the systole the oxygenated arterial blood rushes through the coronary arteries into the coats of the heart; there it remains until it has given up its arterial and stimulating properties; and then the systole returns. The seeming probability is, therefore, that the diastole is stimulated by the blood, and not the systole; and this probability is increased by the fact, that it affords a clue to the rhythm of the heart.

“Rushing into the walls of the heart at the ventricular systole, the arterial blood becomes one cause of the diastole, partly by the force of the ventricular systole, and partly by the stimulant properties of the blood itself. At the diastole the arterial jet is cut off, and, the blood having given up some of its stimulant properties, the cause of the diastole is suspended, and the systole returns. The systole supplies anew the causes of the diastole, and the diastole, by interrupting these causes, brings back the systole, which restores the diastole; and thus systole gives rise to diastole, and diastole to systole, as long as the heart retains its natural dilatability, and the blood its dilating energy.” It even appears to follow that the auricular systole must be contemporaneous with the ventricular diastole, for there is good reason to believe that this systole is more the effect of the *falling-in* of the auricular walls upon the sudden withdrawal of blood by the ventricular diastole, than of any special contraction in the auricle itself. There is reason to believe this, partly from the absence of valves at the mouths of the veins opening into the auricles, and partly from the structure of the coats of the auricles. If the auricles had had to contract primarily, it may fairly be assumed that there would have been valves to prevent the reflux of blood into the veins; if they had had to contract rapidly, it may be assumed with equal fairness that the muscular structure would have been like that of the ventricle or any other muscle which has to contract rapidly, and not—as it is—like that of intestine or other muscle which contracts sluggishly. In this way there is no difficulty in accounting for the movements of the auricles; for the diastole (which is virtually contemporaneous with the ventricular diastole) is caused partly by the same cause—the rush of blood from the coronary arteries, and partly by the onward current which sets in from the veins; and, on the other hand, the systole is mainly due to the collapse caused by the passage of blood into the ventricle at the ventricular diastole. Hence the rhythm of the heart receives a physical explanation, if the blood be supposed to stimulate the reverse of contraction.

There is reason also to believe that the nervous influence co-operates with the blood in the production of this rhythm; but the illustration given must suffice.

A similar conclusion is supposed to result from an inspection of the movements of a heart, or of a fragment of a heart, after removal from the body. Under these circumstances the air seems to take the place of the blood. If air be withheld, the rhythm ceases, but not because there is no contraction. If the amount of oxygen be

increased the rapidity of the rhythm is increased. Like the blood, the air seems to resolve the contracted state of the vessels by virtue of the heat proceeding from a combination of its oxygen with the vascular tissues, and contraction happens when the air has given up the oxygen which provides for the continuance of the heat. In this way the vessels open and become filled with stimulant air, and then contract and empty themselves when that air has lost its stimulant properties; and thus they go on alternately expanding and contracting, so long as the heart, or its fragment, retain their excitability, and are acted upon by air. Under these circumstances, indeed, the air acts in inducing the rhythm, as it does naturally upon the muscles of the air-passages, and the air is alternately received into and expelled from the open vessels of the detached heart for the same reason that it is alternately received into and expelled from the air-tubes.

It would thus appear that the contraction of ordinary muscles, of the coats of vessels, and of the heart, is everywhere manifested under the same circumstances, and that this contraction is due to the unresisted molecular attraction of the muscle upon the suspension of that stimulation which is synonymous with life. In this way muscular contraction, instead of being a phenomenon peculiar to vitality, is an effect of this grand law of gravitation. In this way, the three grand and hitherto inexplicable phenomena of physiology—muscular contraction, the movement of the blood in vessels independently of the heart, and the action of the heart—receive a single and physical explanation.

II.—The pathology of these disorders, in which muscular contraction is in excess—"epilepsy and other affections of the nervous system which are marked by tremor, convulsion, or spasm," admits of being explained in far fewer words than the physiological premises, though the statement of all the facts upon which the pathology is based occupies a much wider space in the volume itself. The topics successively considered are epilepsy, affections allied to epilepsy, periodicity, and treatment.

1.—In epilepsy, the condition of the circulation is habitually one of great depression. The true, active, plethora of the butcher is never met with, and any vascular fulness, if such exists, is mere venous congestion. This depression is aggravated before the fit; and during the fit the condition is either one of asphyxia or syncope. If inflammation, or true fever, chance to be developed, so surely are the convulsions of epilepsy banished for the time. These are the conclusions which are borne out by the simple facts of the case.

With this condition of the circulation an active condition of the nervous system is impossible, and this is in accordance with the actual symptoms. Sense and intellect are completely obliterated during the fit, and at all times they are under a cloud, or if the torpor is occasionally broken by an attack of mania, the patient is for the time relieved from his fits.

The condition of the muscles is always wanting in tone.

The several causes inducing the fits are always exhausting, and not exciting, in their character.

In a word, there is every reason to believe that the muscles of the

epileptic contract excessively (as might be expected from the premises), because they are less stimulated than they ought to be, and not for a contrary reason.

2. In affections allied to epilepsy, whether these be marked by tremor, convulsion, or spasm, the same conclusions are arrived at.

The condition of the circulation during the paroxysm is still one of asphyxia or syncope, or one tending to asphyxia or syncope. Inflammation, or true fever, are utterly uncongenial with any form of tremor, convulsion, or spasm. Thus, rigor precedes fever and again succeeds it as subsultus, but it never accompanies fever. Convulsion often takes the place of rigor, or subsultus, but it never occurs in the intermediate hot stage. The spasm of whooping-cough disappears if pneumonia or bronchitis are developed, and returns again when the inflammation is over. In every instance, the rule is that the muscular disturbance is coincident with the opposite of vascular excitement—asphyxia, or syncope, or a condition approaching thereunto.

As in epilepsy this condition necessitates a corresponding inaction in the functions of the nervous system, and this necessity is fully corroborated both by the symptoms during life and the appearances after death. If there has been inflammation of the brain or spinal cord, the tremor, convulsion, or spasm are found to be before or after, but never during this inflammation. The condition of the muscles is also wanting in tone, and the causes inducing the maladies are never of an exciting character.

Everything indeed tends to support the previous conclusions, and to show that in affections allied to epilepsy, as in epilepsy itself, and in ordinary muscular contraction, the muscles contract, not because they are stimulated, but simply because they are not stimulated. The physiology explains the pathology, and the pathology confirms the physiology.

3. The phenomena of periodicity are also thought to furnish evidence of the same kind. The plant exhibits plainer and more numerous evidences of periodicity than the animal, and it does this it is argued because it has less of that innate life which enables the animal to be partially independent of the vivifying influences of the heavenly bodies. If man exhibits more evidences of periodicity than he ought to do, it follows therefore that he has lost some of that innate life which is the badge of distinction between him and the plant; and hence the periodicity of epilepsy or of any cognate disorder, is merely a proof that the epileptic or his congener is less vitalised—less stimulated than he ought to be.

4. If, then, these diseases depend upon the want of that stimulation which naturally belongs to the muscles, it follows as a necessary consequence—what indeed may almost be said to have been proved by experience—that bleeding, purging, and all lowering measures are not calculated to do good, and that the only hopes of benefit must be placed, not upon tonics merely, but upon stimulants. And this conclusion is that which is verified by the experience of the author.

This is a sketch of some of the arguments from which the conclusions of the work under notice are drawn.

Clinical Lectures on Pulmonary Consumption. By THEOPHILUS THOMPSON, M.D. F.R.S., Physician to the Brompton Hospital for Consumption and Diseases of the Chest, &c. (8vo. London, Churchill, 1854, pp. 205.)

These lectures form a valuable addition to the literature of the subject of which they treat. Among much that is good and familiar, they contain, for instance, much additional information respecting the state of the blood in phthisis, the "gingival streak," the effect of posture upon the pulse, the value of "wavy inspiration" as a diagnostic sign in phthisis, and the relative value of animal and vegetable oils in the treatment of this disorder.

Dr. Thompson thinks there is reason to believe that, in blood removed from the body, the disks became more quickly corrugated and stelliform in consumption than in health, and most quickly in those persons in whom the signs of consumption are most marked. He thinks he can detect this disposition in the blood before the development of any local signs of tuberculosis.

Dr. Thompson lays great stress upon the existence in phthisis of the "gingival margin," to which he was the first to direct attention. In the most decided cases, this margin is of a vermilion tint, inclining to lake, and forming a marked contrast to the paleness of the rest of the gums. It is usually confined to the region of the incisors, but sometimes it extends along the whole line of teeth, becoming narrower and fainter as it proceeds backwards. To afford a means of forming an opinion respecting the importance and significance of this particular symptom, a table is given of the appearance of the gums in 47 cases then in the hospital. Referring to this table, the author says,—

"In the first division, containing the particulars of twenty-six men, you observe that only six are free from the margin, and that the twenty who present the margin have also distinct symptoms of consumption. In five of those without the line, there is also freedom from other consumptive symptoms; the diseases in these patients being respectively emphysema of the lungs, hydatid cyst, diseased liver, pleurisy, and diseased heart. Only one of the phthisical males, a boy, aged twelve, has unstreaked gums; and although the margin is occasionally observable in children, it appears to me, as far as I have yet noticed, to be more frequently absent in them than in adults. It is fair to mention, that in about six of the male patients, chiefly those with the disease in the first stage, the streak is so slightly marked as to render its presence almost a matter of question. I may add that in the comfortable classes of society, under favorable circumstances of regimen, the mark is less constant than in my hospital patients; but with every deduction on the ground of these considerations, I am satisfied of its existence in a very large proportion of cases.

"The exceptions amongst the female patients are far more frequent, as is apparent from the table on the preceding page.

"You will see that of twenty-one phthisical women there are no less than eight without the margin, and it is remarkable that in each of these cases there is cavernous cough or other undoubted evidence of the ex-

istence of vomica. In two of them, namely, J. B. and M. A. M., there is cracked metal sound on percussion. On the other hand, among those exhibiting the streak, in six the disease is in the first stage, not having proceeded to softening. It is also worthy of note that, in seven of the men in whom the mark is observable, the disease has not advanced beyond the first stage."

* * * * *

"When the gingival margin is strongly defined, it is not uncommon to find hypertrophy of the border of the gum, suggesting an analogy to the tightened and deep-coloured skin around the border of the nails, attending even slight degrees of clubbing of the fingers. Of thirty-eight men lately examined in reference to this analogy, twenty-three had the fingers more or less clubbed, and none in whom this appearance was obvious were free from the margin on the gums. Of thirty-eight women, twenty-two had clubbed fingers, and of these twenty-two, only one was without the streak on the gums. The altered aspect on the gums would seem to precede any obvious change in the fingers; ten of the thirty-eight men, and ten of the thirty-eight women, having marginated gums, but not clubbed fingers.

"In some patients, as in M. M., you have seen the gingival margin deep in colour, and more than a line in breadth. Under such circumstances, patches of a similar colour are occasionally observed in the mucous membrane, at a short distance from the lower incisors, particularly where the mucous membrane of the lip is reflected on the gums, sometimes also about the roof of the mouth and inside of the cheeks. In such instances, the disease is usually in the third stage, and the patient's strength rapidly failing, a result to which the co-existence of diarrhœa often contributes. Under more favorable circumstances, with the assistance of soothing and refrigerant remedies, these patches may disappear, and the margin become fainter; but, whether in the early manifestations or the more confirmed conditions, I have never yet observed the line entirely to disappear. In addition to the cases which I have arranged on the table, and recorded in this lecture, I have examined some hundred patients with special reference to this appearance, and the result is in harmony with the deductions to which the tabular view would conduct us."

* * * * *

"It is not improbable that characteristic markings may be discovered in the same situation in various other diseases, but materially different from the streak or border described in this communication. M. Fredericq, whose remarks* induced me to pursue this investigation, states that 'a broad, dirty, livid streak on the gums, opposite the lower incisors, and sometimes the upper also, is common in amenorrhœa and abdominal affections, and a white streak in the scrofulous.' He is of opinion that 'a somewhat narrower streak occurs in phthisis, and constitutes one of the earliest signs, often coming on about the same period as the cough, the colour of the streak being brick-red in inflammatory phthisis, but bluish in the less active form, especially in pneumonorrhagia.' Some of these statements are not in perfect harmony with my own observations:

* 'Medical Quarterly Review,' for 1850, p. 539.

for as regards the margin when distinctly assuming the character which I have here described, there seems to be no evidence of its occurrence in other diseases; and I have taken some pains, in hospitals and elsewhere, with a view to ascertain whether a similar margin was present in other instances of chronic disease.

"Hitherto, whenever any patient has exhibited the line *clearly defined*, whatever may have been the prominent complaint, a careful examination of the chest has led to the detection of phthisical disease."

* * * * *

"In reference to diagnosis, there is reason to believe,—

"1st. That the absence of the streak in men affected with inconclusive symptoms of consumption may incline you to a favorable interpretation of any such suspicious indications, but that in women rather less weight is to be attributed to this negative sign.

"2dly. That the presence of the sign in women is almost conclusive evidence of the existence of the tubercular element in the blood.

"When in either sex it coincides with a pulse not materially altered in frequency by change from the sitting to the standing posture, the presence of phthisis may with high probability be assumed, even before having recourse to auscultation.

"The degree in which this appearance exists is not without importance in relation to treatment. When, for instance, the margin is considerable in extent and intensity, it is often advantageous to administer refrigerant remedies, especially salines combined with prussic acid, as a preliminary to the employment of cod-liver oil, or any tonic medicines or stimulating diet; and when, as often occurs, diarrhœa accompanies this condition, trisnitrate of bismuth is specially useful. There is reason to believe that the presence of the streak, in some instances, indicates the existence of a tubercular taint in the constitution, before any signs of such a condition can be detected in the lungs. When the streak is absent, whatever be the pectoral symptoms, we have at least one ground for assuming that the constitution is not extensively involved, and we may hope to be able, by the administration of suitable remedies, to promote healthy nutrition, and avert or retard the establishment of phthisis."

Another point upon which Dr. Thompson dwells at considerable length, is the very trifling influence of change of posture upon the pulse in phthisis. Instead of there being, as in health, a considerable and progressive increase in the rapidity of the pulse as a person changes from the recumbent to the sitting, and from the sitting to the erect postures, there is scarcely any such change in the phthisical person, particularly in the evening. This is a very curious, and apparently anomalous fact, a satisfactory explanation of which has yet to be found.

Dr. Thompson investigates at some length the significance of that modification of the respiratory sound which he calls *wavy inspiration*, and which is called "*inspiration entrecoupée*," by Laennec, "*inspiration saccadée*," by Fournet, and "*jerking inspiration*," by some English writers. Speaking of this phenomenon, he says,—

"I was once accustomed to regard the sign which I have now brought under your observation as a proof that phthisis had actually commenced;

but more extended opportunities of watching patients in whom it has continued for many years without becoming complicated with any other indication of disease, have induced me to modify that opinion. It is true that I have certainly often observed wavy inspiration at one part of the chest when pectoriloquy or cavernous respiration could be elsewhere detected, or when other indications, local or general, of advanced consumption have been present; and in a great number of instances the wavy inspiration has been superseded by the occurrence of bronchial respiration, dulness on percussion, dry crepitation (crackling), or other more or less decided evidences of the establishment of phthisis; but, in a still greater proportion of cases it has continued, for a considerable period, to be the only important evidence of deviation from the natural state. Often indeed I have watched the symptom for years without observing any transition to serious disease. Of 105 cases, carefully recorded in the course of an investigation which I formerly made regarding this symptom, thirty-two afforded grounds for suspecting tubercular disease; such, for example, as dulness on percussion, or prolonged expiratory murmur. In twenty-two hæmoptysis had occurred. In three, a murmur could be heard over the pulmonary artery. But, of the remainder, many were not affected even with cough, and their complaints were usually expressed in general terms, as of 'delicate health,' 'easy fatigue;' or, if they made any reference to the chest, it was seldom of anything beyond slight oppression of respiration, or of 'seeming to breathe through thin cambric.' It is therefore reasonable to conclude that, if this form of interrupted inspiration be an indication of tubercular disease, it is the earliest local sign with which we are acquainted. The question, however, naturally occurs, can this symptom depend on mere functional disturbance, and disappear, leaving the subject of it in apparent health? Having devoted some attention to this inquiry, I must acknowledge that although wavy inspiration, when dependent on pleurisy, bronchial affection, or rheumatism, may disappear, I have not satisfied myself of its removal (unless superseded by some more serious symptoms) in any instance unconnected with the conditions which I have specified."

Under the head of treatment much interesting matter might be found, and more evidence in favour of cod-liver oil, if necessary. What is most interesting, however, bears upon the relative value of vegetable oils. It appears that the author has made a series of experiments with cocoa-nut oil, which have satisfied him that this oil possesses medicinal properties similar to those which belong to cod-liver oil. These experiments were performed during the first eight months of last year.

"The results in the first thirty patients to whom I administered it, bear comparison with those obtained in the first thirty-seven patients for whom I prescribed cod-liver oil, chiefly in the year 1845, as related to the Medical Society of London, and briefly described in some of the medical journals. Amongst the patients to whom cocoa-nut oil was given, there were some instances of arrested phthisis, as decided as any I have been accustomed to attribute to the use of cod-liver oil, over which it possesses advantages in reference to economy and palatableness; and it is interesting to remark that its efficacy was experienced

by some who had previously taken cod oil uselessly, and by others who had discontinued it on account of nausea."

These experiments are of considerable importance, for, as we take it, cod-liver oil is only beneficial because it is *an* oil. Indeed, in process of time, we have little doubt that the whole matter will resolve itself into a question of cookery rather than pharmacy, and that it will be sufficient to enjoin upon the patients in question the necessity of taking a more than usual supply of fat bacon and butter. We know of several cases which warrant this expectation.

Dr. Thompson concludes with some very excellent remarks upon a strange proposal which has emanated from an American writer, and which—more strangely still—has been received without objection by several persons on both sides of the Atlantic,—viz., to promote euthanasia by means of chloroform; and we cannot do better than conclude this notice of a book with which we have been much pleased throughout, than by transcribing these remarks.

"It can scarcely be necessary to say anything to dissuade you from such a practice. At the solemn period of transition to another state of existence, it cannot be justifiable thus wilfully to suspend the exercise of the intellectual functions. Such a measure might indeed be rebuked by the example of the Empress Maria Theresa who, when urged in her last moments to destroy by opium the consciousness of pain, replied, 'I would meet my Maker awake;' or I might refer you to a venerable lady more than ninety years of age, whom I once attended, and who, in answer to my arguments for the desirableness of endeavouring to sustain the circulation with brandy, made answer, 'Let me go home sober;' and thus gracefully passed off the stage of life. Such suggestions, however, will rarely be urged in cases of consumption, the sinking of the powers in this disease being so commonly painless and gradual, sometimes, indeed, not only calm but cheerful. I remember a young woman, whose physical powers were thus failing, saying, 'Mother, I am going to sleep, and if I do not wake I shall be in heaven.' Her expectation we may trust was realised; and thus she glided into rest, not fearing death, because not doubting of heaven: and furnishing an instance in which you would not have been surprised to see depicted on the countenance of the departed more than what the poet fancied, when he wrote of 'the rapture of repose.' Am I passing beyond becoming bounds in suggesting the reflection that, while witnessing such transitions from languor and decay into an undying life, we may ourselves realise the truth that death is not the end of existence;—that it is something grander than human skill defeated;—that, when art can do no more, and friends 'weep at the vestibule as the spirit passes out of doors,' we may win glimpses of brighter scenes, where the cares and passions of this lower life shall cease to engross, and the germs of opening science shall expand into the fulness of infinite truth."

1. *The Diseases of the Heart and Aorta.* By WILLIAM STOKES, M.D.,
Regius Professor of Physic in the University of Dublin. (8vo.
Dublin, Hodges and Smith, 1854; pp. 698.)
2. *A Treatise on Diseases of the Heart.* By O' B. BELLINGHAM, M.D.,
One of the Medical Officers of St. Vincent's Hospital. (8vo.
Dublin, Fannin and Co., 1853; pp. 252, Part I.)

1. Dr. Stokes's work is one of no ordinary importance. It is a work which will be appreciated by every one, and most of all by him who is best acquainted with the subject of which it treats. In the fullest and best sense of the word it is eminently practical.

In reading this work we have been struck with so many points that we scarcely know what to notice. The cases are especially remarkable for their number and their richness. They are often told in such a way as to be scarcely less valuable than an actual sight of the patient, and of Dr. Stokes standing and speaking at the bed-side. Someway, also, these cases, and the general account of the diseases to which they belong, are made to combine in giving a simple and clear idea to the reader of all those points that are essential for him to know—someway, we say, for it must be confessed that there is a want of order (indicated among other things in the necessity of an appendix to every chapter) which detracts somewhat from the artistic merits of the work. This, however, is a minor matter which will, doubtless, be corrected in a second edition.

The next great feature of importance is the decided opposition to that sangradoism which has so often and so long made the help of the physician a curse rather than a blessing, and to this we would wish to direct especial attention. Dr. Stokes, is speaking of the treatment of pericarditis, but his remarks apply to inflammation of the heart generally.

"It is important, further, to observe, that although, as above stated, the principles of treatment of the more violent forms are similar to those which guide us in acute sthenic pleurisy, yet the analogy only holds good up to a certain point, for it will be found that the period at which such treatment ceases to be advantageous or safe arrives much sooner in pericarditis than in pleurisy. In both diseases, it is true, we have to contend with a severe inflammation of a serous membrane, but in pericarditis a more important and complicated apparatus is engaged, giving rise to dangers foreign to the case of pleurisy. The period soon arrives when either from inflammation, paralysis, or the combination of both, the heart itself is weakened, and the patient is in danger of death from syncope, so that persistence in the reducing treatment may be followed by fatal results. The conclusion is obvious, that whatever may have been the necessity for depletion at the outset of the disease, we cannot press it in pericarditis to the same degree as in pleurisy.

In regulating our practice we derive great advantage from physical examination. So long as the impulse of the heart continues vigorous, its sounds remaining without signs of progressive diminution, and the patient's strength unimpaired, the dangers in question may be considered as remote; yet here it is not to be forgotten that the weakness of the heart, like that

of the diaphragm and intercostals in pleurisy, *may supervene in a sudden manner*. In pleurisy such an accident is of comparatively slight importance, but in pericarditis it is one of great danger, threatening paralysis of an organ which is the fountain of life.

"It is my conviction that the fatal result of some cases of pericarditis is mainly attributable to the perseverance, beyond the proper time, in the antiphlogistic treatment; the practitioner looking at the disease merely as a case of serous inflammation, and forgetting not only the results of irritation on muscular fibre, but the effect of great losses of blood in producing re-action."

And again—

"On the use of stimulants in pericarditis little or no information has been given by authors, yet they are imperatively called for. I am convinced that cases are often lost from want of stimulation at the proper time. These considerations have pressed strongly on my mind since I made my observations on the state of the heart in typhus fever; and it is certain that in every case of dangerous pericarditis, after the first violence of the disease has been subdued, we should be anxiously on the watch for the moment when the weakened heart requires to be supported and invigorated.

"The following circumstances should lead us to diagnosticate a weakened condition of the organ in pericarditis:

"1. The feebleness, intermission, and irregularity of the pulse, especially when these characters have not existed from the commencement of the attack, and again when the feebleness of the pulse coincides with a diminution or loss of the impulse.

"2. The appearance of turgescence of the jugular veins, with or without pulsation.

"3. The progressive change in the character of the sounds of the heart, more especially if it is the first sound that becomes feeble or extinct. This is important, for, if the second sound remains, we may conclude that the want of the first is owing to debility of the ventricles, rather than to any intervening liquid effusion.

"4. The evidences of a weakened circulation, drawn from the symptoms in general. Among these we enumerate pallor, coldness of the surface, œdema of the extremities, and the tendency to faint upon exertion, or even in a state of repose.

"It may be laid down as a general principle that there is no local inflammation whatever, the mere existence of which should prevent the use of wine, if circumstances require it. In two cases especially, namely, cerebritis and pericarditis, we find the greatest timidity in practice with respect to the use of wine. Yet, even in the first case it may be required, and in the second its employment is imperative, when, as too often happens, excessive depletion has been resorted to. Again, if the signs of muscular weakness, such as we have indicated, have appeared; if there be evidence that the heart, previous to the attack, was in a weakened state; and lastly, when a collapsed or typhoid condition of the system exists, we must give wine, quite irrespective of the physical condition of the heart. This may be done safely, and with great advantage."

Passing on, and passing over many points of importance, we would next call attention to the very important remarks upon the mistake,

which is frequently committed of alarming a patient by improper openness, and, more than all, of mistaking a chronic and stationary heart disease for one which is acute and progressive, and of instituting an antiphlogistic treatment on this supposition.

“Physicians who cannot help thinking aloud, or who, less excusably, are fond of exhibiting their diagnostic tact to the patient, are but too apt to commit these errors. The greatest evils now result, for the chief safeguard of the patient is at once removed, and his attention is painfully directed to the state of his heart, than which there could be nothing better calculated to hasten its disease. But this is not all: a long-existing change, which we might compare to the cicatrix of a wound, is taken for a recent and progressive disease. All the habits of the patient are altered by peremptory mandates; he is debarred the use of wine; he is placed on a low diet, and all action, exercise, and pleasurable excitement are forbidden. The discoverer of the disease, too, must now attempt to cure it. Local and general depletion, mercury, digitalis, prussic acid, blisters and issues, are summoned to lend their aid in attempting an impossibility, and in doing that which ought not to be done, namely, weakening the heart, and exhausting the general nervous energy. Under such circumstances, and with the fear of sudden death continually before the mind, the results are just what might be expected: the action of the heart becomes enfeebled and irregular; its cavities dilate with or without hypertrophy; and dropsy and visceral congestion close the scene. I know of no case more aptly illustrative of the evils of the *nimia diligentia medici*.

“The practical rule obviously should be, that when we accidentally discover a valvular murmur in the heart of a patient, whose previous health had been good, and who did not present any of the symptoms of disease of the heart, we should be slow indeed in communicating the fact to any one, least of all to the patient himself. We must, without exciting his apprehensions, seek to discover whether this murmur be the result of some long-previous illness, or whether it be of recent origin: and if it appears that the patient, during the past seven or ten years, had suffered from rheumatic fever, with or without the symptoms of carditis, we may with great probability conclude, that the disease originated on the occurrence of that affection. We must then examine into the habits of the individual during the period in question, and be very slow in advising any alteration in them, for common sense must teach us, that any system of living which had preserved the muscular portions of the heart from lesion, while the functions of the organ remained in a state of health, and which had not caused any advance in the valvular affection, should not be lightly departed from. And, above all, we must avoid the unpardonable error of treating a fixed and incurable organic change as a recent and progressive disorganisation.”

These observations may be illustrated by an admirable case taken from another page.

“It is now many years since I was consulted by a gentleman under the following circumstances. The patient after having enjoyed excellent health for several years, was attacked by an influenza, then epidemic, and in consequence of considerable bronchial irritation, consulted a phy-

sician. He did not complain of any symptoms referable to the heart; but his medical attendant, while exploring the chest with a view of determining the amount of bronchitis, discovered a bellows-murmur masking the first sound of the heart at the left side. The patient was then informed that he laboured under disease of the valves of his heart, and the diagnosis was confirmed in consultation with some eminent members of the faculty. All his habits were immediately changed; he was accustomed to active exercise on horseback and on foot, and was in the habit of drinking wine freely, but all exercise was forbidden except slow walking on a level surface, while he was put on an extremely spare diet, and complete abstinence from fermented liquors was enjoined. This necessary medical treatment, and the apprehension of sudden death so unexpectedly brought before the mind of an ardent young man engaged in an active profession, produced, as might have been anticipated, an extremely depressed condition of mind and body. It was under these circumstances that I first saw him. He was of a full habit; the pulse perfectly regular and of fair strength; and the heart's action tranquil. He assured me that he had never felt any palpitation or uneasiness about the heart until after the period when this murmur had been discovered; in other words, until after the time at which he had been forbidden to use stimulants or active exertion. I found a distinct, but not rough murmur with the first sound of the heart, confined to the region of the mitral valve; the lungs were healthy, and it appeared that he never had an attack of pulmonary congestion or irritation except that one for which he consulted the physician. Taking into account the previous good health and habits of this patient, and the fact that no symptoms of pericarditis or endocarditis had been observed in connection with the attack of influenza, and also that his general health, and even the condition of his heart, appeared to have suffered by the change in his mode of living,—I suspected that this murmur was indicative of some very old, passive, and stationary valvular disease, and this suspicion was converted almost into a certainty by the patient informing me that seven or eight years previously he had suffered from a severe attack of rheumatic gout, which affected many of the joints. There could then be hardly a doubt that the murmur was established at that time, but that the diseased action had not been progressive; the valves had been mechanically altered, but not to such a degree as to interfere materially with their functions. So that we had in this case to deal with the cicatrix of a wound, as it were, rather than with the wound itself. I explained these views to the patient, and endeavoured to re-assure him as much as possible. He was advised not to give up his profession, and was allowed to use stimulants in moderation. Smoking was forbidden; and I directed the patient to return to me within a year. He did so; I found him much improved in appearance and spirits, while the physical signs of the heart remained quite unchanged. I saw this gentleman once annually for several years. On the last occasion but one he had just returned from a shooting excursion in the highlands of Scotland, which had occupied nearly a month. During this time he was on foot, walking over mountains for eight hours a day, carrying a heavy gun and shot-pouch, and using a liberal allowance of diffusible stimuli, yet he never experienced any difficulty in respiration, and when I saw him he was in the highest state of health and spirits.

It is now more than a year since I have seen this gentleman; he was then in perfect health, although the murmur continued unchanged.

"That this individual has had a continued mitral murmur for upwards of twelve years, there cannot be any reasonable doubt, and the case is strongly illustrative of this principle in practice,—that we are not to confound the effects of a disease with the disease itself; and again, that we are not rashly to change the habits of living, as to exercise and the use of stimulants, in a patient who has been the subject of a chronic local disease, if we find that under the regimen in question, local disease has not been progressive, and that the general health has remained unimpaired."

Dr. Stokes is of opinion that valvular disease may exist for some time, and yet be latent, its signs becoming developed quite suddenly in the end. This fact, and its most important bearing, is explained in the following quotation:—

"The recent development of the signs of a chronic, long pre-existing disease is a circumstance which should be known to all who are concerned in the medical examinations for life insurance. Thus, it may happen, a life is passed as insurable after a careful examination. The insurance is effected, and yet in a short time the individual exhibits all those signs of morbus cordis which are supposed to indicate chronic disease. He may die of this disease within a few months after the completion of the insurance, and the payment of the sum insured be then contested on the ground that the disease was overlooked. I have known all the signs and symptoms of permanent patency of the aortic valves to occur within a few months after the effectuation of a large insurance, and yet at the period of the medical examination, which was made by one of the best observers in this or any other country, no sign of disease of the heart existed. In the same way I have known the signs of chronic mitral disease become most strongly developed in the course of a few days. These facts are of practical importance, for in the case of a judicial trial, on the ground of the incompetency or neglect of the medical examiner, many professional witnesses would incline to the opinion that the affection had been overlooked rather than that it had become developed in so short a time after the examination. They would be influenced by the opinion that the development of disease and of its symptoms and signs are concurrent, a doctrine which we have seen to be untenable in acute, and, of course, far more so in chronic disease.

"It is not impossible that in some cases physical signs may be developed at so early a period of chronic valvular disease that we may consider these signs as of little less duration than the organic change, but such a case appears to be an exceptional one. And in most instances a long process of progressive disorganisation has in all probability been going on before the mechanical conditions of the parts are so altered as to cause distinct physical signs."

The remarks upon dilation of the heart strikes us as of extreme importance, and particularly those bearing upon transient, paroxysmal dilatation. Dr. Stokes does not regard dilatation of the heart as a simple phenomenon, but as "one of a triple group of local diseases, in which the heart, lungs, and liver appear to be affected." If the heart is dilated and gorged with blood, there is an equivalent dilatation and en-

gorgement, consecutive or concomitant, (perhaps compensatory,) of the lungs and liver. This dilatation and engorgement as concerns the liver is very curious, and a rule of treatment, which Dr. Stokes deduces from it is very important.

"The hepatic complication is of great importance, and presents some singularly striking phenomena. Without fever or gastro-intestinal inflammation, the liver is observed to enlarge often to such an extent that the tumour may advance below the umbilicus. This augmentation occurs with great rapidity, but is unattended with any signs or symptoms of hepatic inflammation, and it subsides to a greater or less degree when the state of paroxysmal suffering has been subdued. Andral has noticed this singular augmentation of the liver, which is often as remarkable and recognisable as that of the enlargement of the spleen in ague. The tumour is flat, and either painless on pressure or very slightly tender. With each paroxysm of the disease the hepatic tumour seems to gain a slight permanent increase; but the alternation of its enlargement and diminution, corresponding to each attack of the disease, forces the idea on the mind of the observer that the organ is in an erectile condition.

"One of the most remarkable circumstances in this curious combination of symptoms is the suppression of the renal secretion, and the subsidence of at least the aggravated symptoms of the attack on its restoration. There is no reason whatever to believe that the kidney is the seat of organic disease.

"It is difficult or impossible, in the present state of our anatomical knowledge, to explain the phenomena of this disease. The morbid state of the heart, consisting in its weakness, dilatation, and irregular action, and the permanently enlarged, though indolent condition of the liver, may be taken as the constant characteristics, while the exacerbations of the bronchitis on the one hand, and the suspension of the renal secretion on the other, are the accidents commonly attendant on the paroxysm of the disease. We may suppose that either of these affections, or both of them concurrently, by inducing an accumulation of blood at the right side of the heart, may cause the paroxysm of cardiac suffering, attended by anasarca, owing to the general congestion of the venous system; and, on the other hand, by overloading the *venæ cavæ hepaticæ*, may induce a passive enlargement of the liver. We may suppose that the repetition of these attacks establishes a permanent hypertrophy of the latter organ, which in its turn becomes an exciting cause of disease, so that the cardiac and hepatic affections are reciprocally cause and effect; and that such is the case appears probable from the history of them in many instances."

Having an eye to the state of the liver, Dr. Stokes places great trust in mercury for the means of relieving the disposition to, and the paroxysm of, dilatation of the heart—mercury, that is to say, in conjunction with stimulants and tonics.

"The quantity of the remedy which is required, as we might expect, varies in different cases. In some it is requisite to establish ptyalism, while in others the relief of the heart, and the disappearance of the dropsy, are observed after the use of a very mild course, in which little if any of the characteristic action of mercury can be perceived, unless we include diuresis. In other cases it will be necessary to use diuretics

following on the mercurial action, and in this way we often observe a singularly abundant secretion of urine, attended by rapid subsidence of the dropsy and visceral oppression. We should use various combinations of the vegetable and saline diuretics; and even digitalis, in connection with diuretics of the tonic and stimulating class, may be employed. The success of diuretics appears to turn upon their being preceded by mercury. I have often, in cases where the patients for former attacks had already used a great deal of mercury, attempted to remove the dropsy by diuretics alone, but have always failed, and yet found that a diuretic which, without the previous administration of mercury, was totally inefficacious, acted vigorously when given after a few days' use of that remedy.

"But the truth is, that in these cases we are not to be over timid in the repetition of mercurial medicines; for there is nothing more remarkable than the power which the patients exhibit of bearing repeated courses of mercury not only without injury, but with extraordinary benefit to their general health. In some, indeed, the state of aggravation of symptoms appears to be kept off for an indefinite period by the continued use of small quantities of the medicine. The patients will improve in flesh, appetite, strength, and appearance. In others, as in a remarkable case which I have lately seen, the repeated use of very slight courses of mercury, at short intervals of time, has preserved the life of the patient for several years, and enabled him to pursue a laborious profession. This gentleman has now had not less than thirty distinct courses of mercury. It is truly his '*pabulum vitæ*;' and neither in this case, nor in any of the others in which I have seen the treatment pursued, were the injurious effects of mercury ever produced. There has been no unhealthy action on the mouth,—no periostitis, cutaneous eruptions, or tremors.

"It need hardly be observed, that a time at last arrives when the system no longer responds to the action of medicine, and the patient sinks with dropsy and pulmonary congestion.

"During this treatment, and especially when free diuresis is established, it is necessary that wine or some other diffusible stimulus should be carefully administered, and the system supported by a proper aliment; for there is nothing more dangerous than by any interference with the usual habits of the patient to reduce the strength in these cases."

Dr. Stokes's important observations on the condition of the heart in typhus, and the practical deductions arising from them as to the use of stimulants, are well known; but if any one is ignorant of them he cannot do better than consult the 7th chapter of the work before us.

The chapter on fatty degeneration, displacement, rupture, and nervous disorder of the heart, and on aneurism of the thoracic and abdominal aorta, are all treated in the same masterly way, and no one, old or young, can rise from their perusal without having derived great benefit. The only reference, however, that we find it necessary to make to these chapters is to say that among the symptoms of fatty degeneration, much stress is laid upon a form of respiratory distress, "consisting of a period of apparently perfect apnœa, succeeded by feeble and short inspirations, which gradually increase in strength and depth until the respiratory act is carried to the highest pitch of which it seems capable, when the respirations, pursuing a descending scale, regularly diminish until the commencement of another apnœal period.

During the height of the paroxysm the vesicular murmur becomes intensely puerile."—(p. 336.) This symptom is thought to be peculiar to the affection. Another point of interest in connection with fatty degeneration which is instanced, is a rapid evolution of inflammable gas in the tissues of the body after death. This is thought to have some bearing upon the question of spontaneous combustion.

2.—Dr. Bellingham's work on Diseases of the Heart, when complete, will consist of two parts, and the volume before us is the first of these. This part contains a full and careful examination of the size, weight, measurements, motions, and sounds of the healthy heart, and of the physical signs, the general signs, and the secondary or remote symptoms of cardiac disease. Upon these several points we find a careful history of what is known, mixed up with a considerable amount of judicious and original reflection. Dr. Bellingham is of opinion that the sounds of the heart require revising. "From what precedes," he says, "it would appear that sounds in every respect analogous to the normal sounds of the heart may be developed, independent of valvular action, or of muscular contraction; while we know that the normal sounds of the heart are readily converted into murmurs, simply by increase of friction between the blood and the parietes of the orifices of the heart. Now, when we consider the rapidity and the force with which the blood enters, and is expelled from the ventricles; and when we consider the amount of friction which must necessarily take place between the fluid and the parietes of the orifices of the heart, it seems not unreasonable to refer the normal sounds of the heart to this cause rather than to valvular action or muscular contraction; the first sound to the friction between the blood and the parietes of the arterial orifices during the ventricular systole; the second sound to the friction between the blood and the parietes of the auriculo-ventricular orifices during the ventricular diastole."—(p. 92). This view, we must say, is supported by a considerable amount of evidence in its favour; but for that evidence we must refer our readers to the work itself.

1. *Registrar-General's Quarterly Returns of Deaths in England and Wales during 1853.* Published by authority.
2. *Weekly Reports of Births and Deaths in London during 1853.*
Published by authority.

The facts which are contained in these returns and reports are of great and increasing interest both to physician and philanthropist, and we therefore propose to give such an abstract of them as may serve to convey an accurate conception of the state of the public health during 1853.*

During 1853, the aggregate deaths throughout England and Wales, having amounted to 421,775, the mortality consequently exceeded the

* We are indebted to John Webster, M.D., F.R.S., for this excellent report, as we were also, for the corresponding report upon the Sanitary aspect of England, during 1852. (Vide Abstr. vol. xvii, p. 241.)—EDS.

average, not only of the previous, but of many former years ; the total deaths registered in 1852 being reported at 407,938, the excess during that year was therefore 13,837, or 3·12 per cent., if compared with the twelve months immediately preceding. Although more numerous than usual, the aggregate fatal cases fell short of those registered during 1847 or 1849, when the total mortality was greater than at any previous period, according to any accounts now extant. In 1847 the deaths having amounted to 423,304, whilst, during the other year just quoted, 440,839 persons died ; this great increase being, however, entirely owing to cholera, then epidemic. Compared with 1850, the past year proved much more unhealthy, seeing 368,995 individuals died in that period, throughout England and Wales, being 52,780 fewer fatal cases than in 1853 ; whilst the numbers reported during 1851, although amounting to 395,174, were less by 26,601, if contrasted with the twelve months embraced in the present report. Reviewing therefore the entire subject, it thus appears that a larger proportion of the population were carried off by sickness during 1853, than in any year of modern times, so far at least as any accurate data can be obtained, with the single exception of 1849, when 71,853 human beings having died from cholera, the total mortality amounted to 440,839 during that year. With reference to the above mentioned great fatality of cholera, it is a curious fact that, the lives of more persons were thereby sacrificed, than actually fell in the many fields of battle, amongst English soldiers, throughout the late war, viz., from 1792 to 1815, in every quarter of the globe—the proportion being about three and a half persons who actually died in England and Wales during 1849 from cholera, to one British soldier actually killed in action ; whilst the aggregate deaths by that epidemic malady amounted to even more than the total persons wounded during all the battles fought in the period already quoted. This comparative fact is both curious and instructive ; and if any circumstance could impress upon public functionaries the absolute necessity of paying constant attention to sanitary improvements, the statement just made ought to have imperative influence.

Regarding the 421,775 deaths which occurred during the year terminating last December, it appears the largest proportion took place during the first three months of that period : 118,241 fatal cases by all causes having been then reported. The next greatest number was registered in the second quarter, viz., during April, May, and June, when 107,861 deaths supervened. The last three months of the year, or October, November, and December, follow afterwards in respect of their fatality, seeing 103,341 persons died in that quarter ; whilst, throughout the autumnal months of July, August, and September, only 92,332 deaths were recorded, thereby showing the above season proved by far the most salubrious period of the entire year, and very different from the parallel quarter of 1849, or indeed of ancient times, when history states the autumn seemed usually the most unhealthy season, compared with others, amongst the English population. Placed in juxtaposition to the first quarter of 1852, that of 1853 gives an increase of 11,559 deaths during the corresponding three months. How this augmentation was produced, I now proceed to investigate, and will endeavour to explain. Speaking generally, the excess of

mortality above mentioned has not been confined to any particular district, although certainly greatest in the southern and western counties of England, also in Wales, and on the banks of the river Severn; thus showing that the western portion of England proved the most unhealthy, since smallpox, scarlatina, typhus, influenza, and bronchitis were very prevalent, and often became proximate causes of the augmented mortality which was recorded.

Amongst the most prominent features characterising the increased amount of deaths, during the quarter now under discussion, the great mortality by fever at Croydon may be mentioned, as also in Tunbridge. At Winchester, measles, pertussis, and bronchitis, also proved unusually fatal amongst infants and old people. In some parts of Wiltshire pneumonia and typhus were very prevalent; whilst in Devonshire smallpox carried off many victims without previous vaccination: cowpox being often objected to by the ignorant population, amongst whom, the aversion to that safeguard is stated to be frequently truly deplorable. The same may be said in reference to Cornwall, where in some districts, a very great prejudice also exists against vaccination. Cheshire and Lancashire exhibited likewise an augmented number of fatal cases. For instance, in Stockport, and especially at Macclesfield, the deaths ranged considerably above the average; typhus and measles being very rife. Throughout Lancashire, the mortality was also great, particularly at Wigan, Bolton, Oldham, and Blackburn; the chief fatal diseases having been typhus, measles, and scarlatina. Again, in Wales, the deaths also exceeded the average; this result being mainly owing to scarlatina, typhus, and smallpox; the ravages of the latter disease having been among those who have not availed themselves of vaccination. In the northern parts of England, like the eastern side of the island (as already stated), the rate of mortality fell somewhat below the average of former years, with the exception, however, of several localities, such as Morpeth, Hexham, Penrith, and Cocker-mouth, where the cold weather of winter was severely felt; whilst scarlatina, smallpox, and fever prevailed to some extent. At Belford in Northumberland, the deaths ranged also considerably above an average amount, in consequence of the great prevalence of typhus and scarlatina, which proved very fatal in this locality.

During the second quarter of last year ending in June, the total deaths amounted to 107,861, which thus exhibits a larger proportion than has been observed during many previous parallel seasons. Indeed, the mortality recorded in April, May, and June, exceeded the highest ratio ever before registered; the excess, when compared with the spring quarter of 1852, being 7,048 deaths, or one fourteenth upon the aggregate amount. The augmented number of fatal cases then met with supervened as well in town as country districts, although the increase was certainly greater in the former than the latter localities. This peculiarity coincides with all previous experience; the annual rate of mortality being, in town populations, about two and six-tenths per cent.; whereas, in districts comprising villages and country parishes, the ratio of deaths ranged under two and two-tenths per hundred.

Similar to the insalubrity stated to have prevailed in the southern and western portions of Britain, during the first three months of 1853,

the mortality also recently rose above the average throughout these districts, the greatest excess having occurred in Croydon, and on the sea-coast, as for instance at Dover, Folkestone, the Isle of Wight, in Devonshire, and Cornwall. The most fatal diseases being scarlatina, typhus, and smallpox: respecting which, great prejudices are still entertained by the ignorant population, resident particularly in agricultural localities, against vaccination. This remark appears especially applicable to Wales, seeing that at Abergavenny, Carmarthen, Holywell, and several other places, variola caused great ravages. It is, however, very gratifying to find, for example, at Holywell, notwithstanding seventeen deaths arose from smallpox during the quarter, not a single fatal case occurred after vaccination; and although numerous instances were met with in persons reported to have been previously vaccinated, they all terminated favorably, in most cases without leaving marks afterwards.

In some parts of Suffolk and Essex, the rate of mortality ranged high; and, notwithstanding ague and fever prevailed in several districts of Norfolk, the deaths did not exceed the average at Norwich; whilst in the county generally, the proportion was rather less than ordinary. Throughout Nottinghamshire and Derbyshire, the deaths exceeded; but in Lincolnshire they fell below the average; whilst Cheshire and Lancashire were not more than usually unhealthy. In some districts of Yorkshire, the deaths were exceedingly numerous; as for example in Halifax, Bradford, Sheffield, Rotherham, and Huddersfield; but in Leeds and Hull the mortality declined. In many of the colliery districts of Durham, ague and typhus prevailed extensively; whilst measles proved very fatal at Stockton; and typhus is stated to have raged to some extent in Appleby and Morpeth; fever being, at the same time, very prevalent in Tynemouth.

Respecting the third quarter of last year, comprehending July, August, and September, unlike the corresponding three months of 1852, when the number of deaths greatly exceeded the average mortality of previous parallel seasons, the aggregate deaths, during the period under discussion, were less than usual, having only amounted to 92,332; whereas, the mortality registered in the same season of the year immediately preceding, was 100,497, being a diminution of 8165 fatal cases, or nearly one eleventh of the whole number; thus giving about the same amount as that recorded during the autumn quarter of 1851, when 91,381 deaths were reported. Speaking generally, the diminished rate of mortality characterising the quarter now under consideration, extended over nearly every county, except Durham and Northumberland; indeed, almost everywhere, unless in a few districts of the above-named counties. Throughout Kent and Surrey, as also in Sussex, the mortality was low, although fever proved more fatal than usual at Ramsgate, scarlatina at Margate and Dover; whilst it was also very malignant at Ticehurst. In Portsea Island and Southampton diarrhœa was very prevalent; and at Cookham, in Berkshire, the deaths from scarlatina were above the average. In the south-western and midland counties of England, the public health seemed generally satisfactory, as also in Shropshire and Staffordshire. Dudley formed, however, an exception;

scarlatina, of a very malignant kind, having prevailed in this town, whereby 107 deaths, out of a total mortality of 283 cases by all diseases, were actually produced; whilst 11 additional deaths arose from secondary disease after that eruptive malady. In Coventry, the mortality was also rather above the average, the excess being, however, chiefly amongst infants. In Newark the deaths were, likewise more numerous than ordinary: especially from scarlatina, 65 fatal cases by that complaint having occurred out of 108 by all causes. Cheshire was generally healthy, as likewise Lancashire; where, such populous towns as Liverpool, Manchester, Chorlton, and Salford—which at other seasons are sometimes very insalubrious—the general mortality was recently under the average. Ashton seems, however, to have formed an exception; seeing measles, diarrhœa, and scarlatina, were very prevalent. Owing to an outbreak of cholera at Newcastle-upon-Tyne, which soon assumed a most virulent and fatal character, the mortality of that town became greatly augmented, during the quarter now under review; the total deaths by all causes having there amounted to 2,085, or more than three times the usual average, of which about 1,500 arose from the prevailing epidemic. In fact, almost as many human beings were sent to their long home, within these three months, as are usually recorded in ordinary years; for instance, during 1850, when the whole deaths only amounted to 2,090 by all diseases. In Gateshead the mortality was also great, the ratio being double that of previous parallel seasons, and chiefly by cholera; whilst in Tynemouth, the same epidemic, besides diarrhœa, was prevalent. In addition to which it should be stated, the deaths were in excess at Hexham, and chiefly from similar maladies. Throughout Wales the public health appeared satisfactory, excepting at Holyhead, where scarlatina prevailed, and often proved fatal. The same remark applies to Corwen; whilst in Holywell, smallpox raged with great severity, as it did in the previous quarter; 17 fatal cases, or one fifth the total mortality, being registered from that malady.

Like the previous quarter, the aggregate number of deaths recorded throughout England and Wales, during the months of October, November, and December, fell short of the amount registered either in the first or second quadrennial divisions of last year, but exceeded considerably that of the quarter immediately preceding; 103,341 persons having died from all causes within that period. During these three months, a greater number of lives having been lost throughout the entire population than in any other corresponding season of the previous thirteen years; with only two exceptions, viz., that of 1846, when the deaths amounted to 108,937; and that of 1847, during which quarter 103,479 individuals died by different maladies. With reference to particular localities, it appears the number of deaths in the southern and eastern counties of England scarcely differed from the amount recorded in the same season of 1852; which, therefore, affords a general result by no means unfavorable. Nevertheless, the mortality experienced in Kent ranged high, scarlatina having been common at Margate and Maidstone; fever at Tunbridge and Folkestone. In Portsea Island fever also raged to a great extent; and in Southampton smallpox was very rife, and where, it is reported, many

persons are so averse to vaccination that, they refuse to have the operation performed, hoping their children may take the disease naturally! Although the south-western parts of England were generally healthy, in some localities the deaths rose rather above the average. At Chippenham, for instance, typhus and scarlatina prevailed. In Exeter, the mortality was rather high, particularly among aged persons, from bronchitis, as likewise apoplexy. Plymouth exhibited an increased number of deaths, many being from cholera, which also supervened in other localities. Cornwall was more unhealthy than previously; scarlatina having raged in Falmouth, and especially in Redruth, where measles, pertussis, and cholera likewise carried off many persons: the two former maladies being, it should be added, very prevalent in Penzance. Essex, Suffolk, and Norfolk, were comparatively rather healthy, excepting Norwich, fever and smallpox having there proved fatal to a considerable extent; which may, however, be accounted for by the fact that, among the poor and uneducated populace of this ancient city, a great dislike still exists to have their children vaccinated. In some districts of the midland counties the inhabitants suffered severely from sickness; scarlatina having committed great ravages in Warwick, Stoke-upon-Trent, Wolverhampton, Walsall, and especially Dudley, in which town this eruptive disease appeared of a malignant description; typhus being besides prevalent. Birmingham also suffered a sharp attack of scarlatina; which was besides common in Worcestershire, in Shrewsbury and other parts of Shropshire. This epidemic malady likewise raged with great violence throughout the counties of Lincoln, Derby, and Nottingham: Grantham, Horncastle, Newark, and Bakewell, appearing thereby the most severely afflicted, especially the latter town, where 42 fatal cases were registered from that complaint out of 115 deaths by all causes. In Cheshire and Lancashire, scarlatina prevailed even more fatally than elsewhere. At Stockport, the disease assumed a most malignant type, and created almost as much alarm as cholera, there being many instances of two persons lying dead at a time in the same house; whilst its severity was further shown by the fact, that out of 750 deaths in the four sub-districts of this town, 195, or nearly one fourth of the entire mortality, arose from scarlatina. In Liverpool, the amount of sickness seems to have ranged about the average, although bronchitis and diarrhœa carried off a great number of persons in some localities; at the same time that cholera also prevailed, especially in the workhouses where 96 deaths by the epidemic occurred among residents; the total cases terminating fatally from this malady, being 163 during the quarter. Wigan and Bolton likewise exhibited an augmented rate of mortality; measles, scarlatina, and bronchitis having proved rife. Chorlton also ranked high in the mortuary scale—a great number of aged people falling victims to bronchitis; whilst scarlatina, like the epidemic at Stockport, became so exceedingly malignant that, more than one fourth of the total deaths were thereby produced, but solely confined to children. In Manchester, the mortality ranged also high; diseases of the respiratory organs being prevalent. Oldham, Rochdale, and Ulverston lost many persons by scarlatina; and, lastly, it is worthy of note that, two deaths were registered in Lancaster from

hydrophobia. Like many districts already specified, Yorkshire appears also to have suffered much by the ravages of scarlatina, the epidemic having carried off many children at Halifax, Bradford, Doncaster, Barnsley, Sheffield, Selby, York, Richmond, and especially at Wakefield, in one sub-district of which a fourth of the whole deaths arose from that cause. Besides the above prevalence of scarlatina, typhus and fever proved also fatal in many cases at Todmorden, Sheffield, and Northallerton. On the other hand, the northern districts of England show rather a decrease in the number of deaths, if compared with the previous quarter; although cholera became diffused to a wide extent: fatal cases of this epidemic being registered in Stockton, Bishop Auckland, Sunderland, Gateshead, and Tynemouth, where 124 deaths by cholera occurred during the quarter; as also at Kirkby, Lonsdale, and Cockermouth, in which town 44 persons died by that malady. Scarlatina proved severe at Whitehaven on the west coast, whilst it prevailed along the eastern sea-shore and in Alnwick, but spared districts more remotely inland. Lastly, in Wales, the deaths rose a little above the average, scarlatina having raged with severity in Cardigan, Wrexham, Ruthin, and Corwen, where small-pox also carried off many children. Amongst other interesting facts connected with the public health of this principality, a very striking instance deserves record, which occurred at Cowbridge in South Wales. Here, about forty different families, chiefly connected with the neighbouring gentry, are reported to have received the infection of typhus from attending the hunt balls at an inn of this place, when the guests supped in a crowded room built over the stable, and occupied premises which were filthy from defective drainage. Several persons died in consequence, whilst many of those attacked continued in a very precarious state for some time afterwards. Various other questions respecting public health, and the different diseases which raged during the past year, even sometimes with unusual violence, might be further discussed: but I refrain, and will therefore now proceed to investigate the same subject in reference to London and its recent salubrity, so as to learn how far the number of deaths and the type of diseases have varied from previous years.

Similar to the generally augmented mortality reported in previous pages to have prevailed throughout England and Wales, the aggregate number of deaths recorded in the metropolis during 1853 also exceeded the amount of any former year, with the single exception of 1849, since the Registrar-General's official tables were first published. The total deaths in the more recent period being 61,202, which gives an increase of 6,989 fatal cases over the year 1852, when 54,213 persons died within all the metropolitan districts. Last year appears therefore to have been unhealthy, and pressed heavily, in reference to the destruction of human life, upon the general metropolitan population. This seems to have been especially the case during the months of October, November, and December, as 17,390 deaths were then recorded, contra-distinguished to 12,918 in the previous or autumnal quarter; whilst 15,864 occurred during the first, and 15,030 in the second trimestre of the period embraced by the present report. Having stated in my former remarks respecting the sanitary condition of

London, that some disease generally appeared more prominent than any other during particular years, as for example scarlatina in 1852, it is curious to find a similar peculiarity occurred last year, when hooping cough proved unusually fatal, 2,652 persons being cut off by that complaint instead of 1,565 during 1852, which ranged about the average. Pertussis, therefore, constituted the rather remarkable illustration of a particular complaint prevailing to an extraordinary extent during last year, much in the same way as in 1849, when cholera aged like a pestilence. Although hooping cough appears to have been so common and fatal, it should, however, be also mentioned that, it was chiefly during the months of April, May, and June; since 857 fatal cases by the malady were then reported. Afterwards it fell to one half, or 426 deaths during the subsequent quarter, the weather being then much warmer. In the colder seasons the mortality rose higher, but it never equalled that recorded in the second or spring quarter, and chiefly proved fatal to infants or young children.

Notwithstanding the generally augmented number of deaths throughout the metropolis during the past year, several diseases exhibited some diminution—as for instance, scarlatina, whereby 2,069 were recorded, instead of 2,549 during the previous twelve months. Rheumatism and rheumatic fever also gave a decrease, 294 fatal cases having occurred in the recent, against 321 during the former period. The same rule applies to child-birth and puerperal fever, 392 deaths having been recently recorded, in place of 450 during the previous year. Pericarditis proved likewise less fatal, in the ratio of 94 to 116 cases. Enteritis supplied 329 in place of 394. Peritonitis 192 against 213; and by jaundice 156 deaths, instead of 186, were recently reported. But the most remarkable decrease characterising any malady during the past year, occurred in reference to smallpox, only 217 fatal cases having been reported by that epidemic throughout the entire metropolitan population; the deaths from the same cause having amounted to 1,166 during the previous twelve months. In fact fewer persons fell a sacrifice to this formerly pestilentially spreading disease, than has ever been recorded in history, and quite different from the extensive ravages it has often annually committed amongst the inhabitants of London. Indubitably, the greater attention now paid to disseminate vaccination amongst young people in London, has contributed to this salutary result; and although many ignorant persons still doubt the prophylactic virtues of cowpox, or have been influenced by the fanciful theories of prejudiced individuals, more correct views respecting the real efficiency of vaccination are now diffused, even amongst the lower classes of the metropolis, and certainly to a much larger extent than in agricultural districts, or even among residents of country towns in the remote parts of England: where, a strong dislike often still prevails in the minds of poor and uneducated natives to have their children vaccinated, hoping they will take smallpox naturally, and in which some have succeeded. It is, however, highly satisfactory to find such prejudices are on the wane: notwithstanding ignorant persons in particular localities may still object to vaccination, on the ground that it is interfering with the decrees of Providence. Since the compulsory act has come into operation, much good

has been accomplished; and in a few years, there are good grounds for anticipating that, cowpox will become as much diffused in provincial, as it is throughout metropolitan districts; whilst in the latter, it will, I hope, show further extension.

Having now adverted to the few maladies which manifested in London, during 1853, a diminished rate of mortality, I now proceed to examine those diseases whereby the augmented number of deaths, previously noticed, were mainly produced, and which sufficiently explain that circumstance. Hooping cough has already been mentioned, to which malady the following diseases may be also added, as also exhibiting an increase. By typhus, 2,649 persons died in 1853, instead of 2,164 during the previous twelve months. By measles, 1,007 in place of 600. From cancer, 1,083 against 936. Phthisis carried off 7,502 in place of 6,935 and tabes also showed an increase, 965 deaths having occurred by that cause, against 838 in the previous year. By apoplexy 1,339 died instead of 1,162. Paralysis 1,212 against 1,021. Cephalitis, 573 in place of 528. Epilepsy, 413 instead of 370; and by convulsions 2,183 died against 2,029. Affections of the chest, however, proved more fatal than almost any other class of complaints, seeing 5,223 persons died recently, instead of 3,744 during the former year. By pneumonia, 3,938 in place of 3,271; and by asthma, 833 against 627. Diseases of the liver were also more fatal, the numbers being 651 to 589; whilst affections of the kidneys come within the same category, 605 persons having died thereby in place of 446; and lastly, carbuncle, although often more fatal during recent years than formerly, seemed still to be increasing in fatality, 70 deaths being reported from that cause instead of 50 during the previous twelve months. Violent deaths were also increased in number, 1,642 fellow creatures having lost their lives through accidents, in place of 1,511 during 1852; fractures, contusions, and drowning being most numerous. Another source often destructive to human life merits special notice, not only on account of its recent increase, but as indicating greater extension of a practice which entails serious consequences, and is highly reprehensible. I mean the augmented number of infants who were sacrificed last year through 'the want of breast milk,' their natural and best kind of nourishment. From adopting this custom, which fashion sanctions, but reason condemns, 302 human beings just entering upon the morning of existence, are reported to have fallen victims in 1853, against 267 during the previous corresponding period. This fact is most instructive, and shows the injurious effects which often arise from mothers in the middle and higher ranks failing to nurse their own offspring, and so calling in the aid of hirelings, who thereby become bribed to neglect those duties imperatively assigned them by nature and maternal affection. Diarrhœa and cholera also exhibited an augmented mortality, particularly the latter disease, which prevailed epidemically during the fourth quarter of 1853. From diarrhœa, 2,310 persons died last year, instead of 2,164 in the former; whilst cholera carried off 881 individuals against 162 during the previous period just mentioned, 728 of the deaths being registered in the last three months, when the epidemic was very rife. It is, however, gratifying to state the disease soon afterwards disappeared, only 7 fatal cases by cholera having

been recorded in London throughout the first three months of the current year. That this malady will again appear next autumn is not unlikely, but I earnestly hope the public may be spared such a visitation.

Various diseases have manifested a marked similarity in reference to the number of deaths recorded during the year embraced in the present report, if compared with that immediately preceding. For instance, croup carried off 374 persons during 1853, and 343 in the former year; influenza 112, instead of 117; erysipelas 324 against 329; hæmorrhage 210 against 233; dropsy 844 against 811; scrofula 443 against 447; insanity 132 against 114; diseases of brain 654 against 621; gastritis 76 against 79; hernia 148 against 137; ulceration of intestines 140 against 139; hepatitis 215 against 207; diabetes 54 against 48; stone 38 against 33; cystitis 36 against 35; ovarian dropsy 46 against 46; and quinsey 56 in place of 56. Several other complaints might be also enumerated, but it seems superfluous; although they would further demonstrate, notwithstanding the immense metropolitan population, a considerable similarity frequently obtains, in the number of fatal cases annually recorded from very different diseases. However, I will not pursue this subject any further, but would only now remark that, in consequence of the augmented mortality recorded during last year, the ratio of deaths in the aggregate population became materially increased, having amounted to one in every $40\frac{1}{3}$ inhabitants, both sexes included. If calculated in reference to each sex, one male died in every $36\frac{2}{3}$ individuals; whereas, if confined to females, the proportion fell to one death in $44\frac{1}{3}$ persons, thus proving the result ranged considerably in favour of the latter. The fact now mentioned coincides with the experience derived during former years; while it may also be stated, according to data contained in the present report, the average mortality was higher throughout the low-lying districts south of the Thames, than in the north and western, but more elevated localities of the metropolis; the former giving one death in every 37 inhabitants, the latter one in 44; males and females taken indiscriminately.

Reviewing the various points now brought under notice, and supported by the observations of other investigators, it may be asserted with confidence, that the rate of mortality ranges on an average higher the nearer we approach towards the sea-shore, than throughout the interior districts of Britain, especially amongst town populations. This remark applies especially to such places as Dover, Brighton, Southampton, and Exeter on the south, to Hull and Sunderland on the east, as also to Liverpool on the west coast; when compared with equally crowded communities resident in the Middlesex part of London or in Leeds, but particularly in reference to Birmingham, which is situated about the centre of England, considerably above the sea-level, and at a distance from all marine influence. In the places first named, the aggregate number of deaths, in proportion to the total population, is always greater than in the latter. Indeed, Birmingham may be justly considered the most healthy locality of England, speaking comparatively. Cholera has never been epidemic in this town; typhus is always a very rare disease; and although scarlatina proved

rather prevalent last autumn, this seemed almost an exception to its general salubrity. Notwithstanding the smoke, sometimes overcrowded dwellings, and the laborious occupations followed by great numbers of people, this district appears remarkably healthy; whilst the rate of mortality ranges generally lower than in any other populous locality with which I am acquainted. Anxious to give some satisfactory explanation of this remarkable feature in reference to the unusual healthiness of Birmingham, I applied to Dr. Evans, the eminent physician to the general hospital of that town, for information, as he could, from his local knowledge, and scientific attainments, speak with authority upon this important inquiry. In reply to the question I put—What are the chief causes of the great salubrity of Birmingham, compared with other towns, especially on the coast? Dr. Evans wrote as follows:—"1. The elevated situation of the town, which varies from 300 to nearly 500 feet above the sea-level, its undulating surface, and the greater part of the town being built upon the new red sandstone and gravel. 2. The comparative exemption from filth and stagnant water, which are carried off by the porous nature of the soil, and an excellent plan of sewerage, and adequate supply of good water. 3. The smaller density of its population, compared with other large towns—almost every family being provided with a separate house, and no instance of a cellar being used as a dwelling—its wide and well-ventilated streets. 4. That, with few exceptions, the processes employed in the manufactures are not injurious to health. 5. The almost invariable prosperity of trade for many years past—the remuneration for labour being adequate to supply the operatives with the necessaries of life. 6. The great number and variety of trades and manufactures, affording extensive scope for the exercise of inventive and practical talent, by which the enterprising artisan is elevated *gradually* to advance himself to the state of a master; his success depending more upon industry, ingenuity, and skill, than the amount of capital at his disposal; hence, the number of small firms, and the large proportion of inhabitants who are in easy, or moderately affluent circumstances. I believe that this facility of self-advancement is one of the most remarkable features of this town—it operates powerfully as a stimulus to the acquirement of industrious, temperate, and provident habits—it accounts for the more equal distribution of wealth in Birmingham, than in other towns, and contributes greatly to the improvement of the sanitary, moral, and physical condition of its inhabitants." This instructive communication so completely explains the marked superiority of Birmingham as a salubrious residence, that any additional evidence on my part would be altogether supererogation. I cannot, however, append to the present report the above interesting remarks Dr. Evans has kindly forwarded, without expressing many thanks to that gentleman for enabling me to lay before the profession, on the present occasion, the opinions he entertains upon the important point discussed, and which deserve attentive perusal, seeing the various sections of his note—given verbatim—contain much valuable information.

"Several practical reflections, based upon the various data enumerated in preceding paragraphs, might be here adduced; but I will only make one remark, namely, the fallacy often pervading the minds

of numerous persons in this country, respecting the assumed greater salubrity of marine residences, compared with dwellings situated inland; whereby a strong desire is frequently felt to visit the coast, in order to breathe sea-air, and to bathe in salt water: on the plea that such proceedings must prove beneficial to health. Opinions of the above description are in many instances most erroneous: and instead of producing benefit, a visit to sea-side watering places becomes actually prejudicial; whereas, were more internal and rather elevated situations selected, especially those having a south-western exposure, where the water was good, the air pure, free from saline particles, and not impregnated with damp vapours, which very frequently arise from the mud or decayed vegetable matter exposed on shore, to the action of the atmosphere or the sun's rays, every twelve hours, no doubt can exist but localities, constituted as now described, would be generally found much better adapted for the constitutions of many persons, and even of those invalids who at present frequent marine towns or villages, from the firm belief that sea-air will always act as a grand panacea. In my opinion, the anticipations so commonly entertained regarding the beneficial effects which a marine atmosphere is often believed to produce, are neither borne out by the rates of mortality characterising many of those favorite quarters for sick and idle people, nor by their actual results upon the human frame. Like the wide-spread notion frequently pervading a large portion of modern society, in favour of foreign climates being salutary towards restoring decayed health, the assertions similarly made respecting marine atmospheres equally require further confirmation. That a residence on the sea-coast is generally agreeable, no one will deny, any more than that some warm and southern regions of Europe seem delightful: but as neither longevity nor strong physical health are peculiar or even common to these countries, the sanguine views of partisans advocating either alternative will often become illusory and end in disappointment.

“Before bringing my present observations to a close, it will not be irrelevant to the subjects investigated, to say a few words respecting the number of births registered during the present year, and thus ascertain how far these may have influenced the aggregate population. In 1853 the children born amounted to 612,341, and as the total deaths were reported at 421,775, the increase became therefore 190,566 during the year. It is curious to observe, with reference to the number of births, that the largest proportion took place in the months of January, February, and March, when 161,598 were registered, and the fewest during the last quarter, only 144,444 having been then recorded, thus making upwards of 9 per cent. increase throughout the former period. The same remark applies to the second and third quarters, the numbers being respectively 158,718 and 147,581; from whence it appears, as the year advanced so were the births consecutively diminished. This result agrees with general and previous experience, more children being usually born in the early part of the year, or during spring, than at any other season. Although the births usually far exceed the number of deaths annually registered throughout England and Wales, still it has been asserted that, the

aggregate population does not materially increase, in consequence of the large amount of emigration constantly taking place to other countries, particularly North America and Australia—more emigrants having left the different British seaports during 1853 than the actual excess of births over deaths. This reasoning is, however, fallacious; since no allowance whatever is made in any calculations recently promulgated for the large number of foreigners who merely pass through England on the high road of embarkation to distant climes, and thus augment the large increasing tide of emigration. Any person perambulating the streets of London during the spring and summer season, and then visiting Liverpool, must have remarked the crowds of strangers he often meets, having every aspect of emigrants. In proof of this fact it may be mentioned that in the workhouse of the above city out of 96 deaths which there occurred from cholera, during the last three months of 1853, it is reported the disease proved chiefly fatal amongst German emigrants. Until, therefore, the nativity of those persons who now annually emigrate from British shores is more accurately ascertained, no satisfactory conclusion can be arrived at by merely placing the aggregate number of emigrants against any excess of births over deaths, and thus striking the balance; although some have readily received this reasoning as evidence of a fluctuating population. Such proceedings lead to error, and therefore additional facts must be first procured respecting the point mooted, prior to speaking confidently in reference to the interesting question now alluded to incidentally, and which deserves more ample consideration.

II.

REPORT ON THE PROGRESS OF SURGERY.

1. *On a new method of managing Fractures: from the address in Surgery delivered at the 20th Anniversary Meeting of the Provincial Medical and Surgical Association.* By JAMES TORRY HESTER, Senior Surgeon to the Radcliffe Infirmary, Oxford, &c. &c. (Churchill and Parker. Pamphlet. 1853.)
2. *Description of a new Splint.* By C. J. GIBB, Lecturer on Anatomy and Physiology in the College of Medicine in connexion with the University of Durham. ('Medical Times and Gazette,' 31 Dec. 1853.)
3. *On a Speculum adapted for employment during Operations on the mouth, under Chloroform.* By J. SMITH, M.D., Dentist, Edinburgh. ('Edinburgh Monthly Journal,' April 1854.)
4. *An account of a new Instrument for performing Artificial Respiration.* By W. MARCET, M.D., formerly President of the Edinburgh Medical Society. ('Medical Times and Gazette,' 22 April, 1854.)

Notwithstanding the great amount of mechanical skill which has been brought to bear upon the practice of surgery, the surgeon is still often thwarted by the imperfection of his instruments and appliances; and we therefore deem it a special part of our duty to notice all inventions which are calculated to remove this opprobrium.

1. Mr. Hester's address contains a good deal of valuable information respecting the management of fractures, and the plan which is recommended in fractures of the thigh demands especial attention.

There is, no doubt, much room for improvement in the treatment of this accident. The long straight splint provides pretty surely for a limb of proper length, but it is open to serious objections, and it certainly is not applicable to all cases. The position in which the limb is placed is as uncomfortable and unnatural as it can well be to a person lying in bed. The plan of placing the patient on the injured side, with the thigh flexed on the body and the leg on the thigh, so as to afford the greatest degree of relaxation to the muscles, is a much more rational way of placing the patient; but in this position there is unfortunately a constant disposition to turn on to the back, and thus an uncomfortable twist is given to the limb. The plan of placing the patient on the back, with the knee raised and supported by pillows or

frames of various kinds, has also been found on the whole to be unsuccessful. Even Mr. Earle's bed, in Mr. Hester's experience, has been found to be "as defective as any other apparatus hitherto in use."

It was whilst making observations on Mr. Earle's bed that Mr. Hester was led to make the discovery upon which he bases his own mode of treatment.

"Let any one place himself in one of these beds, with the knee elevated to a proper height, and the back likewise elevated, then let the back be raised higher, or be more depressed, and he will find the knee thrust forward in the one case, and dragged back in the other. A moment's consideration will render any explanation as to this pushing or dragging unnecessary, and it will be quite clear that unless the back be kept always at the same elevation, a good cure cannot be looked for.

"On still further making observations, I found that the same pushing and dragging of the limb took place under ordinary circumstances, in changing from a sitting to a recumbent position. Any one may convince himself on this point very easily. Let him sit with his legs straight and his feet touching the wall, and then fall back. He will find in doing so, that his feet are drawn about four inches from the wall. Let him reverse the experiment, and lie down with his feet against the wall, and on rising again into a sitting posture, he will find that his knees will become considerably bent. This effect is very easy of explanation. When sitting, as in the accompanying sketch of the skeleton, fig. II, (v. p. 292,) the acetabulum will be found to be above, or rather a little in front of a straight line over the tuber ischii, but on lying down the pelvis, as it were, rolls back, and the acetabulum is consequently carried several inches further backwards.

Mr. Hester proceeds—

"Finding this to be the case, I considered that the best mode of treating fractures of the thigh would be to place the subjects of them on such a bed as would admit of the back being elevated or depressed, without at all interfering with the relative position of the trunk and thigh.

"Figure III, (v. p. 293,) shows the bed as it is adapted to a fracture of the middle of the thigh. It will be seen that it has no connexion with the frame on which it rests, except by the hinges at the centre of the bed.

"Figures IV, V, and VI, (v. pp. 293-4,) show the extremes to which, when thus fixed, it is capable of being elevated and depressed, the whole body being moved together.

"When the fracture is in the upper third of the bone, I think it desirable that the limb should be at a right angle with the trunk, when, if moderate pressure be made on the outer side of the bone, to antagonise the muscles which tend to abduct it, a straight limb, without any degree of deformity, will be certain to result.

"It will be seen that the part of the bed which supports the thigh is capable of being lengthened or shortened, so as to suit patients of any height; the foot-boards are likewise made moveable. *The pelvis being fixed straight in this bed, the knees even with one another, as well as the feet, it is impossible that the fractured limb should come out shortened.*

Fig. II.

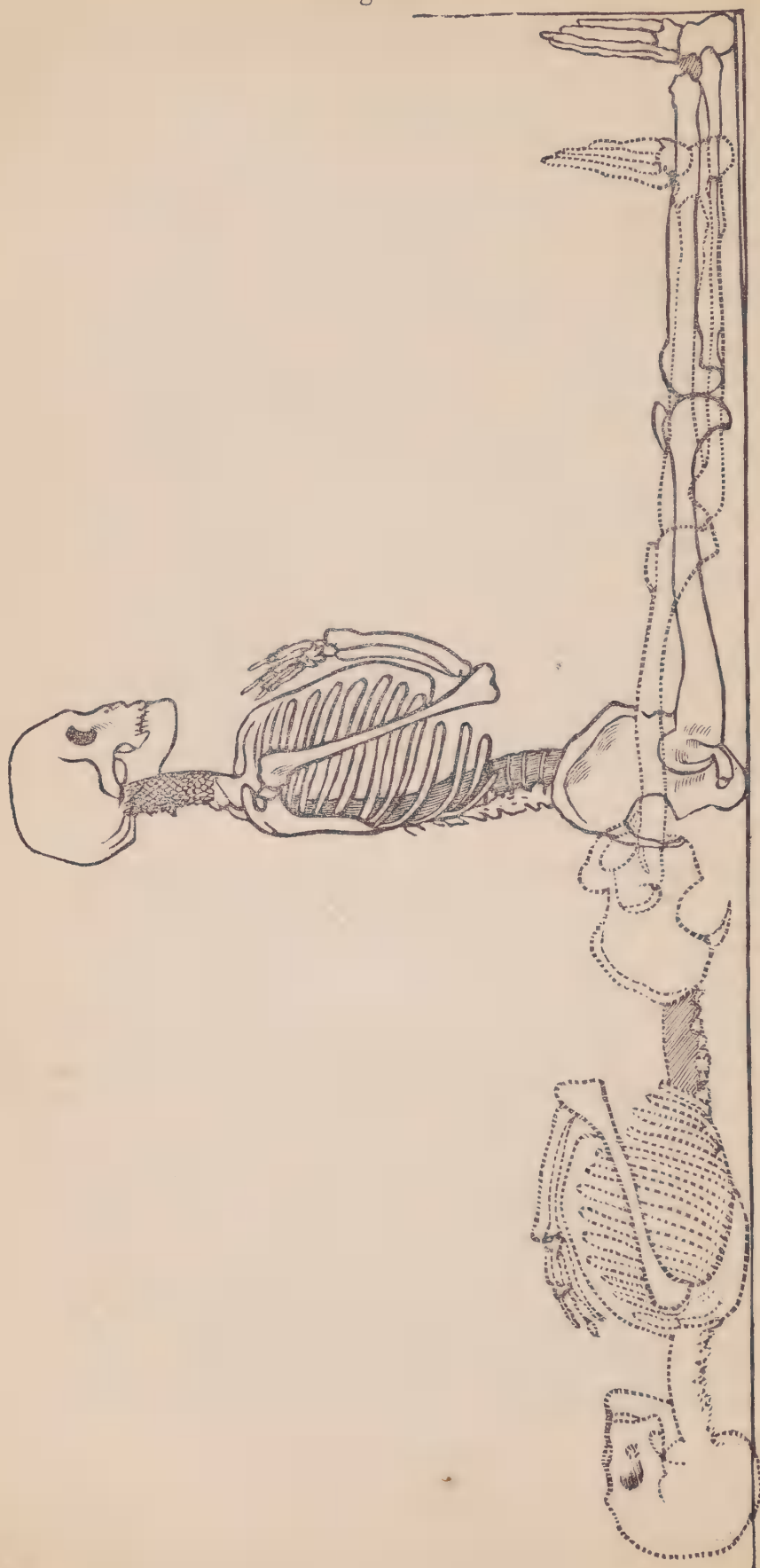


Fig. III.

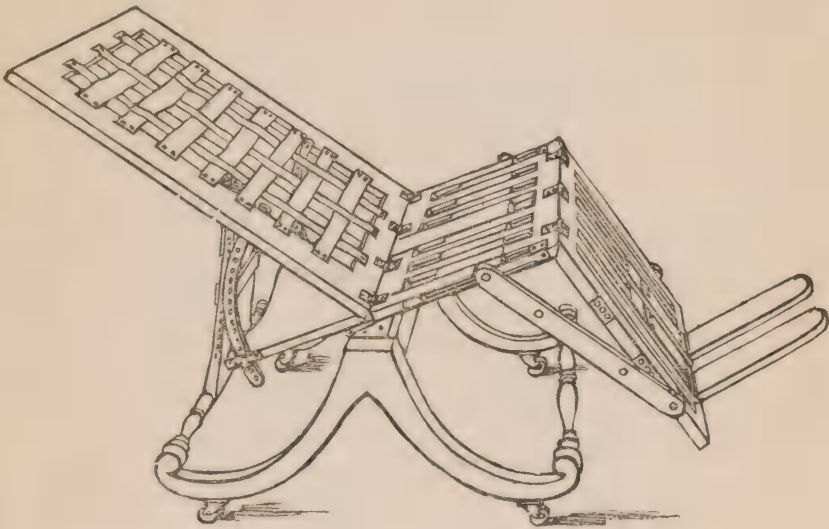


Fig. IV.

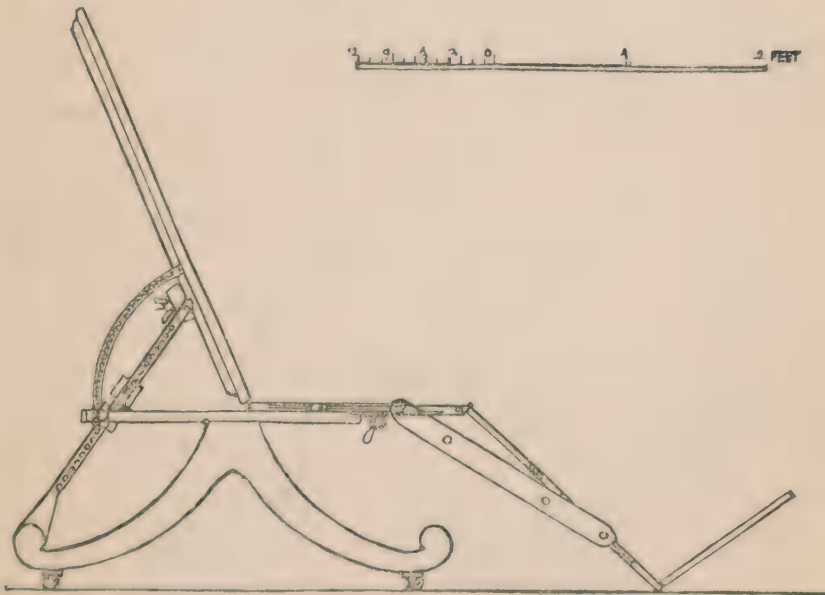


Fig. V.

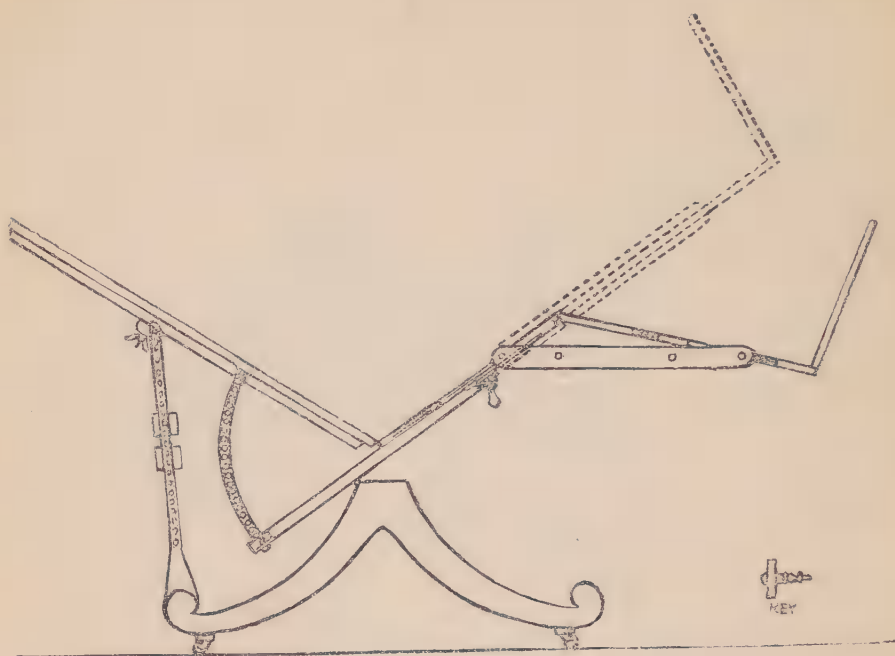
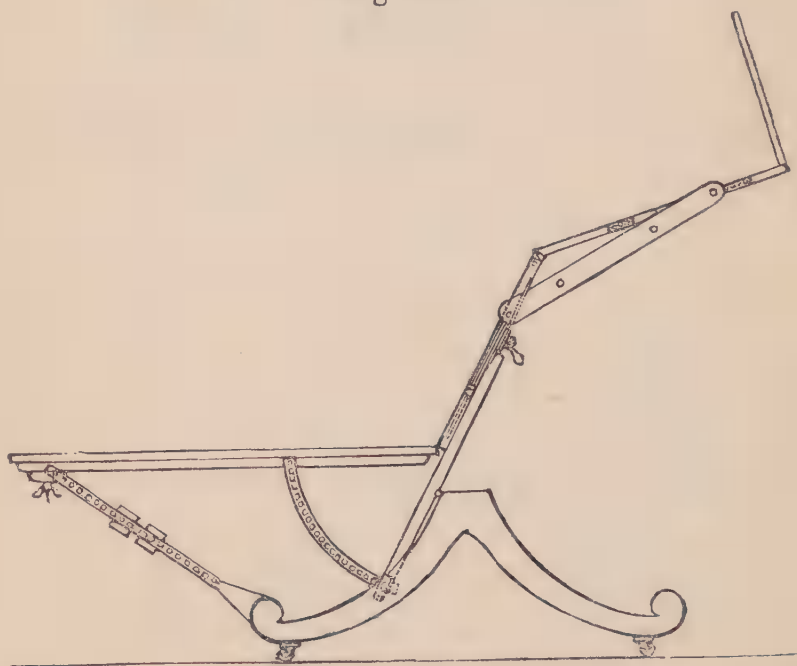


Fig. VI.



* The dotted lines in Fig. V, show the position of the bed when used for fracture of the patella.

Mr. Hester adds—

“There is one fracture, namely, of the neck of the thigh, to which my bed is, I think, more than to any other, applicable. And here I protest most strongly against making up one’s mind to consider any given case as necessarily incurable, for, with all the rules which have been laid down no one can say with absolute certainty whether the fracture is within or without the capsule, nor do I think that the impossibility of union, when it is intra-capsular, is by any means established. I do not consider that the means hitherto adopted have afforded a good chance of union, since nothing short of absolute quiet for a great length of time will be sufficient, and if there be a supply of blood adequate to nourish the head of the bone and the detached portion of the neck, I cannot see by what law we are justified in saying that union may not take place. If, on the other hand, the slightest motion be allowed, it cannot be looked for; nor with the fact which I have pointed out, can any mode of treatment be expected to succeed which does not prevent all motion at the hip-joint. Neither in the side position nor on the back, can we possibly expect that a patient will be content to lie without moving for a period of three months, which is the shortest time I should consider safe. In my bed he may sit up or lie down without danger; indeed, when treated on it, the tediousness of a long confinement to bed is quite got rid of, so constantly may he change from the sitting to the recumbent position. If the bone be kept in exact apposition, I cannot see why the periosteum surrounding the neck may not unite, (nor does it follow that in all cases it must be entirely torn asunder,) and so the head of the bone again derive nourishment from the vessels of the shaft.

“I have had two cases in which I have thus treated patients with fracture of the neck of the thigh, under the most unfavorable circumstances, and in which most satisfactory results ensued.”

Mr. Hester’s plan appears to provide most completely both for the comfort of the patient and for the successful issue of the case; and we are much mistaken if it does not enable the surgeon to treat successfully all cases of fractured thigh, however high or however oblique the fracture may be.

2. “About a year ago,” writes Mr. Gibb, in his ‘Description of a New Splint,’ “a circumstance occurred which led me to believe that a splint, *simple in principle, and capable of adaptation to all fractures of the extremities, and to any size of patient*, was a great desideratum, and, if invented, would be more especially a boon to the general practitioner. The fact was suggested to me in the following manner:—I was requested by a medical friend in the country to order for him a large-sized splint, such as, in my opinion, would be most suitable for a bad case of compound fracture of the leg, at that time under his care. He had found it almost impossible to keep the bones in apposition when the limb was placed on an ordinary fracture-bed; and the profuse discharge necessitating daily dressing, was effected with no small degree of trouble and inconvenience. The long straight splint was inapplicable; and, as extension was required to keep the bones in apposition, short splints were likewise useless.

“The patient was a very tall man, and, upon reflection, it occurred

to me to be a very foolish proceeding for a country surgeon to order an expensive splint of so large a size, that, considering also the special nature of the splint, it would probably be inapplicable to any case of fracture he might again have to treat during his professional career, —unless, indeed, he was in extensive mining or other practice productive of accidents.

“Under the influence of these feelings, the idea struck me that it might be possible to invent for my friend a splint, suitable for the case in point, and one which would, at the same time, be capable of adjustment to the fractured limb of any other patient he might afterwards have to treat. I accordingly proceeded to make a model in sheet lead, which served as a pattern for the instrument maker. Since that time I have still further followed out the idea; and after many trials, and considerable alterations of the original model, consequent upon suggestions arising during the extensive use of it for a period of now nearly a year, I have invented a splint which, I believe, will be found, in general practice, capable of almost universal application in fractures of the limbs. The principle of the whole splint is that of the simple slide. Each part is made of pieces of sheet iron, which slide alongside of, or within each other, and can be fixed at any required length by a finger-screw. The various parts are designed in such a manner, as, when fitted together in different ways, to form a splint of varying size, suitable to the limb of a child or a man, and in shape combine all the advantages of various sizes of the long straight, Liston's, McIntyre's, and Greenhow's double incline splints, for the lower extremity, or of small straight or angular splints, for the upper extremity.”

The woodcuts will make the description clearer: they are on the scale of about an inch and a half to the foot. The splint consists, as will be seen, of a thigh-piece (1); lateral thigh and side-piece (2); two leg-pieces (3 3); a foot-piece (4); an additional side-piece (5); and a sling cradle. When required for use, the *thigh-piece* (1) can be shortened or lengthened to the size of the patient's limb by relaxing the finger-screw seen at its under aspect, and pulling out or pushing in the one slide-piece upon the other; and can be narrowed or made broader by shifting one or other of the holes seen in the lateral thigh and side-piece (2) on the projecting male screws (*aa*), seen at the under surface of either side of the thigh-piece, and fixing it there by the corresponding female finger-screws. The *lateral thigh and side-piece* (2), as is evident, may be fixed on either side of the thigh-piece to suit a fracture of either limb; can be made of any required length, to extend to the short ribs of the patient for the purposes of counter-extension, having two slits above for the ends of the perineal band; and the one half may be placed at any angle with the other to suit the various bends of the body at the hip-joint, by alterations in the spring-catch, which locks the joint seen at its centre.

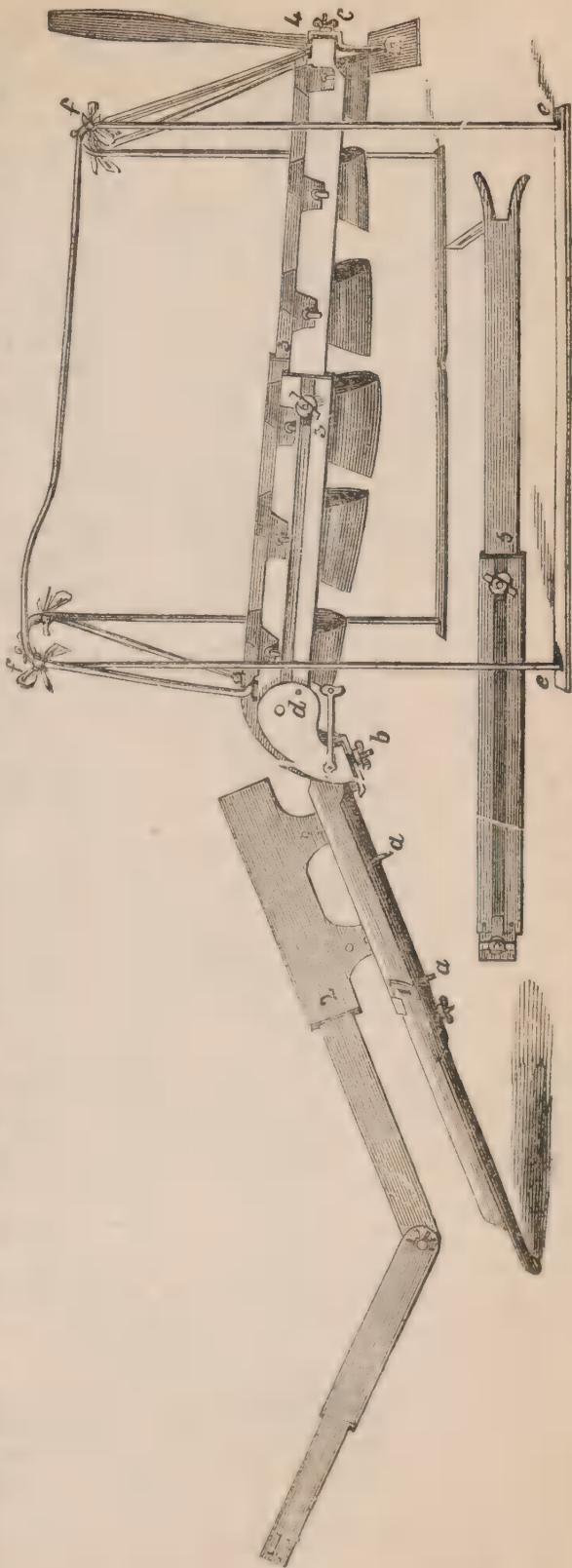
The required length for the leg can be secured by alterations effected in the position of the slides of the *leg-pieces* (3 3), by loosening the finger-screws, near to the figures (3 3); and the breadth by similar alterations in the screws and slides at *b* and *c*. The joint (*d*), seen in the right hand leg-piece at the knee, is to allow of the flex-

ing and extending of the knee; and the spring-catch, seen a little below the letter (*d*), is used to fix the joint by placing the catch in the small hole in front of the letter (*d*), which there locks into corresponding holes in the other part of the leg-piece, entering into the composition of the joint.

The form and size of each piece of the splint have been most carefully determined by experimental observation, in order that the whole of the splint may be capable of being accurately adjusted, to suit the limbs of children or men, and the requirements of their varied fractures and dislocations.

As seen in the accompanying woodcut, the splint resembles the fracture-bed of Mr. Greenhow, and is more especially adapted for the treatment of bad cases of compound or complicated fractures or dislocations of the leg, ankle, or thigh. Several of such cases have already been most successfully treated upon it.

The interval between the leg-pieces is filled up by strips of bandage or india-rubber sheeting, as seen in the cut; one or more can be removed to allow of the dressing of the wound of a compound fracture, without disturbing the



The complete Splint, pulled out to its largest size.



A long straight Splint, formed by joining the lateral Thigh and Legs slide together (which can be used with or without the foot-piece.)

position of the limb in the slightest. This is found an immense advantage over the ordinary splints in the treatment of cases where the wound is large or extends round the limb; for by no other contrivance is it possible to cleanse and dress the wound, without considerable disturbance of the bandages, splints, and even of the limb itself, with consequent rubbing together or displacement of the ends of the bones, and accompanying pain and ill-effects to the patient.

The limb lies most securely upon the splint, as upon all others, when the cushions or paddings are thin; and where there is a compound fracture of the leg, it is by far the best plan to support the wounded part of the limb simply on the strips of bandage, as the dressing can be effected daily, or oftener, if necessary, with the most perfect ease, by simply withdrawing the pieces of bandage, and thus exposing the whole circumference of the limb.

A scoop, placed under the splint at the injured part, will also receive the discharge escaping from beneath the dressings through the intervals between the strips of bandage, thus preserving the bed and clothes clean and wholesome even in the worst case.

When the foot of the patient is securely fixed to the foot-piece, any amount of extension can be made by loosening the finger-screws at (33), fixing the thigh-part of the splint to which the perineal band is affixed (for the purpose of counter extension), and drawing out the slides of the leg-pieces by traction at the foot, and thus extending the leg. When the requisite extension is made, the whole can be

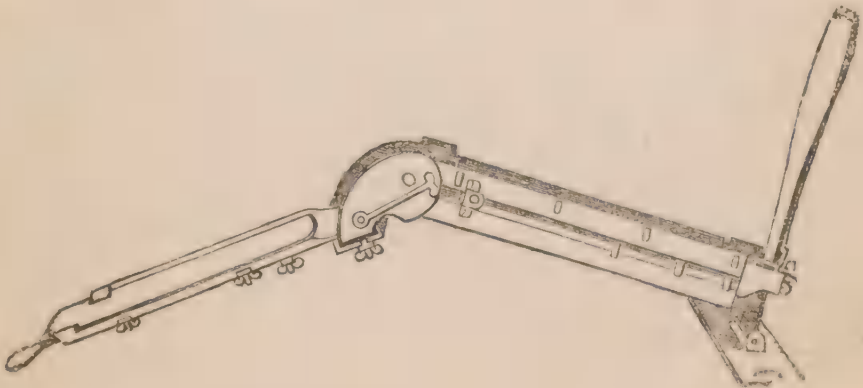
securely fixed by again tightening the grasp of the screws. In the original splint the extension was effected by a suitable extending-screw attached to the foot-piece; but it was found in practice, that it complicated, added greatly to the expense, and offered no compensating advantages over that already described. The extending screw was, therefore, abandoned, as well as some other screws which were fixed to the slides at *b* and *c*, for the purpose of expanding or contracting the breadth of the fracture-bed between the leg-pieces (3 3), and the simple slide motion at these parts is now alone retained.

The great, but actually little understood advantages of the sling posture, are secured by suspending the splint in the accompanying cradle. The form of the cradle portrayed in the cut is not quite that which Mr. Gibb now uses. It is capable of being taken to pieces, like the whole of the splint, by loosening the screws at *f f*, and removing the cross-bar, and as a joint exists at *e e*, the whole can be folded up into a convenient form; indeed, the whole splint and cradle can be wrapped up into a comparatively small parcel portable on the front of the saddle, or under the arm, to any distance without inconvenience.

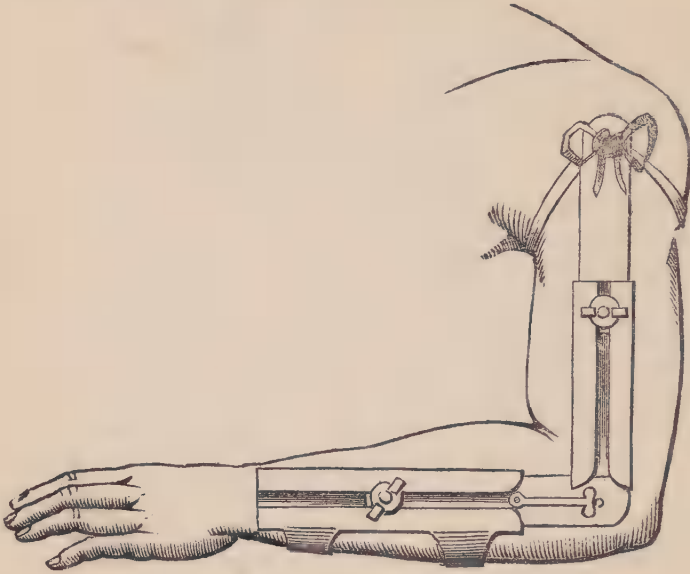
The additional slide-piece (5) (seen in the first cut) can be used alone, or united with the foot-piece (4), in fractures or dislocations about the leg. It can also be attached to the lateral thigh and side-piece (2), and thus it forms a convenient long straight splint, applicable to fractures of the thigh, &c. The second woodcut illustrates the splint formed by the junction of the parts mentioned.

When the lateral thigh and side-piece are removed from the complete splint to form the long straight splint seen in the preceding cut, the resulting splint resembles in all respects the common Liston's, or McIntyre's double-incline plane fracture-beds, and may be used for all the purposes for which these are suitable, having also the additional advantages of being capable of exact adjustment to the size of any limb, with moveable pieces of bandage at the back of the leg, to enable the surgeon to inspect and dress all parts of a limb, with compound or other fractures, and the ability to hang it in a sling-cradle, if necessary.

The following cut shows this portion of the splint reduced to its smallest size, the scale being the same as in the others, and that when the complete splint is deprived of the lateral thigh-piece and cradle, a splint is formed similar to Liston's or McIntyre's.

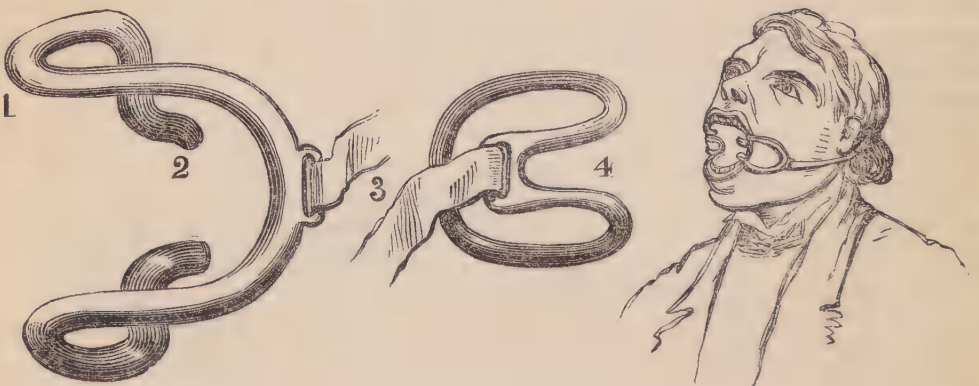


The next cut exhibits the lateral thigh and side-piece applied to the arm, where it is applicable as a splint to any fracture of the humerus or elbow-joints. In practice it has been found useful in those fractures, and has the advantage of being capable of allowing extension to be made to the limb.



The expense of the whole splint, with the cradle, is scarcely greater than Liston's ordinary splint.

3. The "Speculum adapted for employment during operations on the mouth, under chloroform," which is recommended by Dr. J. Smith, is a very simple but a very important addition to surgical appliances, for every one experienced in these operation knows how often he has been inconvenienced for the want of an instrument which will keep the mouth open, and at the same time present no impediment to the admission of air, or to the free course of the operation. The nature of this speculum and its application is rendered evident by the accompanying diagrams.



The instrument may be divided into three parts, viz. :

1st, The larger steel portion, adapted for at once holding back the edges of the lips, and keeping the jaws widely separate, on one side of the mouth.

2d, The elastic band, attached by one extremity to this, and intended to be passed round behind the patient's neck, and brought to the other side of the mouth, where,

3d, The flat hook is attached to it, and serves at once to keep the lips back at this side, and the whole instrument in its place.

The general configuration of the apparatus is given in the drawing, where the larger portion above mentioned is seen to consist of a piece of steel, bent into a semicircular shape, the two free extremities of which are again bent back so as to form two smooth hooks (1), intended to be introduced within the lips, and serving to retract them and the cheek. These hooks terminate by having their ends again turned inwards (2), so that from resting flatly on the internal surface of the cheek, they pass between the upper and lower jaws, which rest upon and are kept separate by them. If it were considered necessary, these two ends might be covered with caoutchouc, or some other substance, for the purpose of rendering them more soft, and thereby protecting the teeth or gums impinging upon them from the chance of injury. At the other extremity of the instrument the hook (4) is attached, and these two metal portions are connected by the India rubber band (3), which passes behind the patient's head, and retains the apparatus steadily *in situ* until the operator thinks proper to remove it. The instrument could, by means of a joint and regulating screw, in the portion intended for separating the jaws, be made capable of adaptation to any size of mouth, or to whatever extent the jaws in different cases might open; but as this would detract from the lightness and simplicity of the apparatus, it would be better to have two of different sizes, since the distance to which the jaws may be separated varies considerably in different individuals, and, indeed, were it for children alone, a smaller one would be indispensably required.

4. Various means have been employed for inflating the lungs, with the view of restoring life in cases of asphyxia, or of poisoning with narcotic poisons; and, for this purpose, instruments have been contrived to fill the lungs with air, allowing each expiration to result from the spontaneous contractions of the thorax, assisted by artificial pressure upon that region. This expiration must, in consequence, be very incomplete, especially if the artificial respiration is continued for some time, and the amount of fresh air sent into the lungs at each inspiration must, in many cases, prove insufficient to excite the heart's action. To obviate this inconvenience, Dr. Marcet has devised an instrument which has the power of producing both a forced inspiration and a forced expiration, without the aid of external pressure.

The advantages of this instrument are :—

1. A large bulk of air can be introduced into the lungs, and these organs may be completely inflated and contracted at each inspiration and expiration.

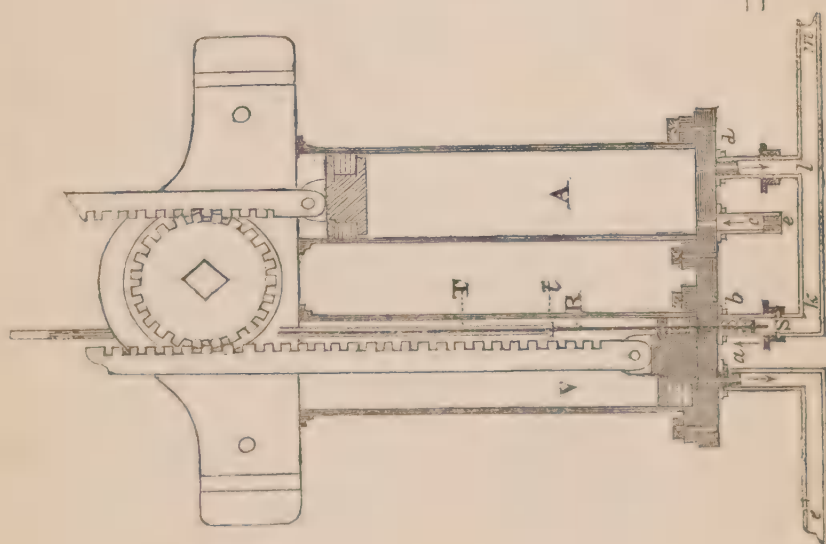
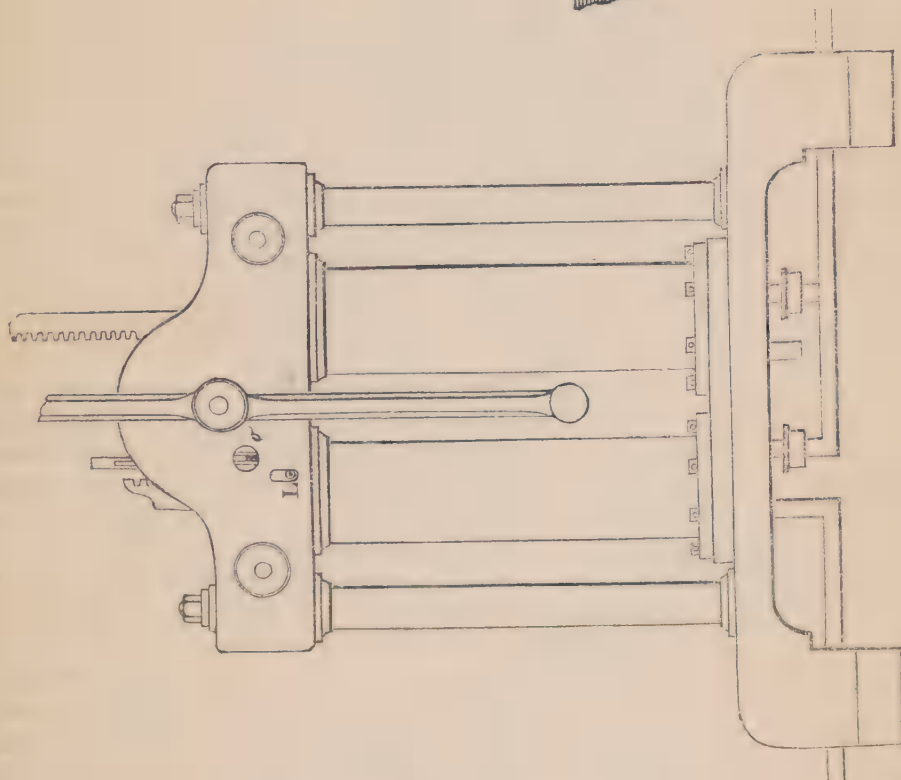
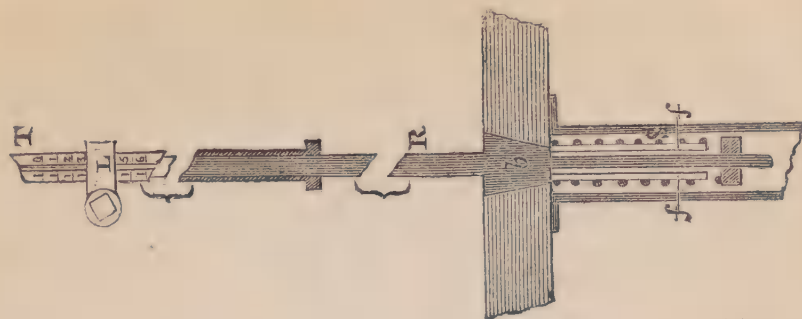
2. Artificial respiration may be performed for any length of time, even in cases of comparative rigidity of the thoracic muscles.

3. There is no danger to anticipate from an excessive distension of the lungs.

4. From 20 to 26 cubic inches of air or of oxygen gas can be used to inflate the lungs eighteen times in a minute.

5. Assistance is not indispensable for the operator.

This instrument as illustrated by the accompanying sketch, (and as constructed by Mr. C. Becker, philosophical instrument maker,) is composed of two cylinders, V and A, enclosing two pistons, moveable up and down by means of a lever, as in the case of the air-pump. Four valves, *a, b, c, d*, close two apertures in the inferior plate of each cylinder, each valve being moveable in the direction shown by the arrows. The valves, *a, c, d*, are exactly similar to those used in the common air-pump, and are made of a piece of oiled silk tied over a small brass cube, perforated in its vertical axis, the oil silk overlapping only two opposite sides of the cube. The valve *b* consists of a small brass cone, fitting exactly a conical opening in the inferior plate of the cylinder, and fixed to the vertical rod, R, which passes through it. The part of the rod extending under the cone is surrounded by a strong spiral spring, S, which rests above against the inferior plate of the cylinder, and underneath, against a small disk, screwed to the end of the rod, so that the spring is forcibly shortened, re-acting above and below, and keeping the little cone in its socket. To avoid breaking the spring, the rod is made to pass through a small cylinder, placed therefore between it and the spring, which, being rather shorter than that part of the rod, allows the little cone to be raised only just enough to admit the entrance of air into the cylinder, V. The rod finds its way through the piston without, however, affording any passage for air, reaching as high as the woodwork of the instrument, where its extremity may be seen through the aperture, *o*. Above the piston the rod is covered by a brass tube, T, or sheath, moveable up and down, and long enough to extend from the top of the instrument to the top of the piston, when as low as possible in the cylinder, V. This tube has two slits opposite each other, and is graduated so that one division corresponds to one cubic inch of the cylinder. The volume of each cylinder should be about 32 cubic inches; for the graduation of the tube the bulk of the piston is subtracted from the total volume of the cylinder. The tube can be fastened to the rod by a clamp, L, fitting in a hollow space inside the woodwork, which allows its being moved up and down to the extent of about a quarter of an inch, the clamp being tightened or loosened by means of a key. At the inferior extremity of the tube is a small disk, which checks the upward motion of the piston. A brass tube, *k, l, m*, connects the apertures closed by the valves *b* and *d*, and extends further to the right, to establish a communication between the cylinders and the lungs. The openings closed by the valves *a* and *c* are not connected with that tube, but communicate with the external atmosphere through the tubes *é* and *e*.



The lever of the instrument is worked with both hands, like that of the air-pump, raising the piston of one of the cylinders and depressing the other at the same time; when the piston is lowered in the cylinder, A, it closes the valve, *c*, by atmospheric pressure, and forces air into the lungs through the tube, *lm*, producing an inspiration; at the same time, the piston of the cylinder, V, being raised generates a vacuum, as the valve, *a*, is closed by the external pressure of the atmosphere, and the little cone or valve, *b*, forced into its socket by the spring; the spring must therefore be strong enough to resist the pressure of the atmosphere acting on the valve from beneath, and the friction of the rod inside the piston. As soon as the piston has reached the disc soldered to the end of the tube, T, the inspiration ceases, and the slightest effort upon the lever will now shorten the spring and raise the cone, *b*, when the air contained in the lungs will instantly rush into the vacuum producing an expiration. The piston of the cylinder, V, is now depressed and the other raised, which causes the expired air to be expelled from the cylinder, V, through the orifice *é*, and fresh air to be taken in by the cylinder, A, which is used for the following inspiration. The amount of air to be introduced into the lungs may easily be regulated by means of the tube, which can be moved along the vertical rod, R. By loosening the clamp and raising the tube the bulk of air will be increased, and the reverse will take place when the tube is depressed. If the divisions engraved upon the tube, and visible through the opening, *o*, be made to coincide with the top of the rod, which is seen by the light transmitted through the two opposite slits of the tube, the amount of air to be employed for the artificial respiration may be at once regulated.

The operator who is about to make use of this instrument, having previously determined upon the amount of air which is to constitute an inspiration and expiration, and fastened the tube accordingly, moves the lever up and down, as in the case of the air-pump, taking care that a short interval should elapse between each inspiration and the following expiration; he must also avoid striking violently against the disk, which the slightest pressure from the piston will suffice to raise; the action upon the spring is to be continued until the expiration has entirely ceased. Another and a longer interval necessarily elapses between an expiration and the next inspiration, than that which occurs between an inspiration and the following expiration, during which time the operator gets rid of the expired air, and takes into the instrument a fresh quantity of atmosphere; this interval between expiration and inspiration occurs, however, in natural respiration, and does not interfere with the action of the instrument. Oxygen, or any other gas, may be easily substituted for atmospheric air, by connecting the orifice, *e*, of the tube through which fresh air is brought into the cylinder with a receiver containing the gas, by means of a piece of vulcanized caoutchouc tube.

The power of this instrument to produce a phenomenon exactly similar to natural respiration can be easily illustrated by fixing the opening of a bladder to the end of the tube, *lm*, when the bladder may be filled with air, and completely emptied, being made, therefore, to act precisely like a lung. The same experiment may be repeated

upon lungs extracted from the body of an animal, or left in the thoracic cavity, by introducing into the trachea a canula made to communicate with the tube, *l m*, of the instrument by means of a short vulcanised caoutchouc tube. On moving the pistons the lungs will be observed alternately distending and contracting, as if the animal was living, air penetrating into every one of the air-cells of this organ.

If the canula be introduced into the trachea of a dead animal before the occurrence of the rigor mortis, or after it has ceased, and artificial respiration produced, the thorax will be seen rising and falling, just as happens in natural respiration. When the experiment is made upon the dead human body, the same result is obtained, provided the lungs be in a comparatively healthy state. Dr. Marcet succeeded, but in one instance only, in completely dilating and contracting artificially the human lungs of a dead body, by introducing the canula into one of the nostrils, the other one and the mouth being maintained perfectly closed by an assistant. In this case the lungs were perfectly healthy, and the rigor mortis had entirely ceased. At other opportunities he had for experimenting, in the post-mortem amphitheatre of St. George's Hospital, it was found impossible to dilate completely the lungs by introducing the canula into one of the nostrils, the lungs being considerably, if not completely diseased, or the rigor mortis having not yet disappeared. There is, however, every reason to expect that artificial respiration will be easily performed, by the above means, upon the healthy human subject in cases of asphyxia from drowning or other causes, unless there should be a spasmodic action of the glottis, preventing the entrance of air into the trachea. The operation of tracheotomy however, is neither dangerous nor difficult to perform, and it might be resorted to, should the air introduced through the nose not find its way into the lungs.

The following experiments illustrate the practical utility of this instrument :

Experiment 1.—A small dog was made to inhale the vapours of chloroform, until the respiratory motions of the chest had completely ceased. The operation of tracheotomy was immediately performed, and a canula introduced into the trachea, firmly secured by an assistant, thus avoiding the use of a ligature. One minute after natural respiration had ceased, the lungs were fully inflated, and contracted with about ten cubic inches of air. After three or four artificial inspirations and expirations, the animal showed signs of life, and a desire to breathe, evinced by slight motions of the mouth and lips. The canula being then removed, the animal immediately took in a long breath, and continued breathing naturally. A few minutes afterwards, he completely recovered.

Experiment 2.—Chloroform was given to a little dog until breathing was no more perceptible. The heart was felt beating for nearly three minutes afterwards. One minute having elapsed after the heart had ceased pulsating, artificial respiration was commenced, tracheotomy having previously been performed. This respiration was continued for five minutes, but failed to bring the animal to life.

Experiment 3.—In this case, insensibility was produced upon

a small dog by the action of chloroform. The respiration became weaker and weaker, the heart beating rapidly. Tracheotomy was then performed, and chloroform made to be inhaled through the nose and mouth, and through the canula, until respiration had completely stopped. The pulsations of the heart had then become very slow, and hardly perceptible. Artificial respiration was now commenced. After three or four deep inspirations and expirations, the animal moved his nose and lips, and on the removal of the canula immediately took in a long inspiration, followed by two others; the fourth occurred fifteen seconds after the third; the heart was then pulsating rapidly but feebly. After the fourth inspiration breathing again ceased. The head of the animal was immediately put under the open tap of a butt full of cold water, but without inducing respiration. The pulsations of the heart had become very slow and weak. The canula was then again introduced into the animal's trachea, and artificial respiration was performed. Three or four deep inspirations and expirations sufficed to bring on the first signs of a desire to breathe; but artificial respiration was continued for two minutes longer. Upon the canula being removed, the animal took a long breath, and went on breathing naturally. He remained, however, in a state of stupor for about ten minutes longer before consciousness had returned, and then completely recovered.

Experiment 4.—Artificial respiration was produced upon a little dog, whose natural respiration had been checked by the inhalation of chloroform vapours. The animal very soon showed signs of life; but the canula having accidentally been loosened, the amount of air forced into the lungs was considerably diminished. The dog moved his nose and lips for a few seconds, and again fell into a state of complete stupor, from which it was found impossible to rouse him.

Experiment 5.—One of the dogs experimented upon a week previously was made to breathe the vapours of chloroform until respiration had ceased. Tracheotomy being again performed, and the canula again introduced, its lungs were inflated and contracted by means of the artificial respirator. A few minutes afterwards he completely recovered, and has never suffered since from the experiment.

Experiment 6.—A little dog was immersed into a butt, about four feet deep, and full of water; a large stone had been tied to the front legs of the animal, and a long string fastened to that stone, to enable his being removed from the water at a given time. The dog was left in the butt for exactly one minute, and the struggling ceased after fifty seconds. When taken out, he showed no signs of life; but, upon close examination, the pulsations of the heart were still felt, though very slow and faint. One minute more elapsed before artificial respiration was commenced, so that no breathing had taken place for two minutes. After filling the lungs with air, and emptying them three or four times, the animal began to show signs of life, and a violent contraction of the body occurred. The canula was removed, after a few more inspirations and expirations, and the animal immediately began to breathe naturally; insensibility continued, however,

for five minutes longer, during which time the wound was sewed up, but after that time he entirely recovered. Four days afterwards the dog died with symptoms of secondary asphyxia; perhaps from pus and blood having found their way into the trachea, the wound being closed outside, or from a spasmodic contraction of the glottis, which prevented the entrance of air into the lungs; in every case where the animals experimented upon had recovered from the effects of chloroform the wound in the neck had been left open.

From the nature of the action of this artificial respirator upon a bladder or upon lungs extracted from the thoracic cavity, an objection as to its practical application might be raised from the sudden and rapid character of the expiration; the experiment upon a healthy dog under the influence of chloroform will show, however, that the resistance of the walls of the chest diminishes considerably the rapidity of the expiration. At all events, it would be easy to obviate this inconvenience, should it really exist, by reducing the size of the orifice closed by the conical valve, so as to admit gradually the expired air into the cylinder.

Six Lectures on the Pathology of Strabismus, and its treatment by operation, delivered at the Westminster Hospital. By C. HOLT-HOUSE, F.R.C.S.E., Assistant Surgeon to the Hospital, and Lecturer on Anatomy in its Medical School. 8vo. London, Churchill, 1854; pp. 116.

These lectures owe their origin to a circumstance which occurred last summer in one of the out-patient rooms of the Westminster Hospital. A young man presented himself with an ulcer on his leg, whose expression of countenance was so remarkable that it at once arrested attention, and whose history was calculated to provoke further inquiry. One eye appeared to be much larger than the other, and this appearance was found to be due to an operation for strabismus, which had been performed upon it in a metropolitan hospital about eighteen months previously. Considering that this result could never have been contemplated by the operator, and that for this reason the operation must either have been improperly performed, or the case have been unsuited for the knife, Mr. Holthouse was lead to infer that the true principle of treating strabismus could not be very clearly understood; and this inference had been confirmed by the cases which had fallen under his notice subsequently.

After these introductory remarks, the author passes to the anatomy of the recti and oblique muscles, and their actions, as bearing upon the operation, and in so doing he combats (we think successfully), the generally prevailing notion, that the straight muscles acting together can retract the eye. The apparent retraction, Mr. Holthouse affirms to be an act of depression produced by the orbicularis palpebræ, because "no such movement can be made to take place when this muscle is paralysed, as in facial paralysis, while it can be effected when the recti are paralysed provided the orbicularis remains unaffected."

By parity of reasoning it is inferred that the obliqui cannot draw the eye forwards, but though the author expresses his disbelief of these movements in the normal conditions of the muscles of the eye, he adds that—

“Circumstances undoubtedly may and do occur, in which either retraction or protrusion may take place; viz. when the antagonism between these two sets of muscles is disturbed; in their natural condition they are so nicely balanced, that neither protrusion or retraction to any extent ever occurs; but if the power of either set of muscles is weakened or strengthened, then this balance is destroyed; and retraction or protrusion is the consequence. This has an important bearing on the operation for strabismus, for, as we shall see by and by, the division of one of the recti, by weakening the retractive force, relatively increases that of the opposing one; so that some degree of protrusion under these circumstances must always be looked for, and discrimination must be exercised in determining what cases are, and what are not, proper for the operation.”

This is evidently the point to which the author is most anxious to direct attention, and to which he considers the profession has not been sufficient alive when undertaking the operation for the cure of strabismus, though on its recognition depends in a great measure the success of that operation.

In the lecture on the phenomena of strabismus, it is stated that the distorted eye is frequently more prominent than its fellow, and that, if this be the case, an operation should be avoided, or only undertaken with great caution, and by the *sub-conjunctival* method—

“The reason for refraining from interference is, that the tendency of the operation is to increase the prominence of the eye, so that if it were previously the fuller one of the two, the operation will increase this fullness, and the patient will but exchange one deformity for another. Under these circumstances it becomes a question, how far the appearance may be improved by the exchange. When the difference in the prominence of the two eyes before operation is but slight, I should recommend its careful performance in the manner to be presently pointed out, inasmuch as an eye that is but slightly fuller than the other, if parallel, is a less defect than a squinting one. But *when the apparent size of the squinting eye much exceeds that of its fellow*, by all means avoid the operation, a greatly protruding eye being more ungainly than an inverted one.

“The tendency of the operation to increase the prominence of the eye, is a favorable circumstance when the squinting organ is apparently smaller than the sound one, as it not only restores the parallelism of the two, but renders them equally prominent, and therefore symmetrical. Hence squinters thus affected form by far the most favorable subjects for operation.”

In “An Enquiry into the actions of the Oblique Muscles of the Orbit,” written, it appears, in 1841, but now published for the first time, Mr. Holthouse denies to these muscles the power of producing strabismus, and shows the futility of dividing either of them in order to cure this condition. The facts which he has brought forward in support of the opinion “that the office of the oblique muscles in the human subject, is not to rotate the eye either voluntarily or involun-

tarily in any of the directions that can be given to it by the recti," are original and conclusive. As respecting Sir Charles Bell's opinion that one action of the oblique is to give the cornea an upward and inward position during sleep, Mr. Holthouse states that he has examined the eye during sleep in nearly 200 cases, and that the cornea is not in the position which Sir Charles supposed it to be.

In the lecture on the "Immediate Causes of Strabismus," the fourth in the series, the author calls in question the generally received opinion that convergent strabismus is due to a weakened state of the external rectus muscle, and he affirms it to be rather owing to an opposite condition of the internal rectus. This he considers to be proved by the history of strabismic cases, by actual observation of the adductor muscle at the time of the operation, as well as by dissections after death. He does not deny the weakened condition of the external rectus in these cases, but he considers that the condition is the consequence, and not the cause of the disaster. The author admits his inability to explain the cause of some varieties of strabismus "in which dissection has revealed no trace of alteration of structure, or bulk of the nerves or muscles of the orbit," but he suggests that they may be owing to some lesion of that part of the encaphelon in which is seated the co-ordinating or controlling power.

"If the strabismus which arises from an inequality of power of the orbital muscles has its analogue in the several varieties of club-foot; that of which we are now speaking may be allied to stammering and some other affections manifested in perverted muscular action."

In the lecture on the subjective phenomena of strabismus, Mr. Holthouse examines some of the principal theories which have been invented to explain the impaired vision which accompanies the deformity. The theory of disuse of the organ, which appears to have enlisted the largest number of advocates, he maintains to be disproved by the very curious fact (of which we were before unaware), that the division of the muscle which produces the deformity, *immediately* restores, or very much improves the vision. This sudden improvement of vision consequent on division of the muscle for the cure of strabismus, together with the impairment of sight, which is observable in cases of paralysis of any of the orbital muscles, lead our author to the conclusion that "in the majority of cases, the cause of impaired vision resides in the dioptric parts of the eye, which parts have undergone some change of form, or tension by muscular action."

He proceeds—

"Of the important part played by the muscles in vision, abundant evidence is afforded, not only by the phenomena which accompany strabismus, properly so called, but by those which are observed in all cases, as far as my experience at present extends, in which the balance of power of the orbital muscles is disturbed sufficiently to produce distortion of the eye. In all those instances, therefore, of paralysis of the muscles supplied by the third nerve, as well as in those in which the abducens is paralysed, of which I have given examples in a former Lecture, we meet with the same kind of defective sight; nor has the mere direction of the eye, or the condition of the pupil, anything to do with it, inasmuch as it occurs equally when the cornea, from paralysis or spasm, occupies any

other position than inwards or outwards ; equally in paralysis of the external rectus when the pupil is unaffected, as in paralysis of the external rectus when it is fully dilated.

“And this impairment of sight goes hand in hand with the paralysis of the muscles ; it comes on with it, increases with it, and disappears with it, so that it is obviously not the result of disuse of the eye, and can only arise from the cause indicated.

“It is true an objection might be urged that the paralytic condition of the muscles, and the defect of sight, do not stand in the relation to each other of cause and effect, but that both may be consequences of the same cause ; in fact, that the disease which has affected the third nerve, or the sixth, may have likewise implicated the optic. That this is sometimes the case there can be no doubt ; disease about the base of the brain, or tumours occupying this situation, we all know may interfere with the functions of several of the nerves at a time ; but then we always have symptoms by which the same may be recognised.

“Now, in the majority of cases of paralysis of the motor oculi nerve, there is nothing present which would lead one to infer that the optic nerve was implicated ; none of the symptoms which characterise amaurosis, no muscæ, no insensibility to the stimulus of light ; on the contrary, there is some degree of intolerance. In short, the impairment of vision which accompanies paralysis of the motor oculi, or of the abducens nerve, is of a different character from that which results from affections of the optic nerve or retina.

“I think it, therefore, impossible to resist the force of such facts as these, which so clearly point to the muscles as the agents, both of the distortion and of the impaired vision. The mode in which they effect the latter, I imagine to be, by altering the form or tension of the eyeball, so that it is rendered either too much, or too little refractive, or may in some instances be made to refract irregularly.

“The celebrated Dr. Young and the Astronomer Royal both suffered from irregular refraction, so that the rays which diverged vertically from an object, were not brought to a focus at the same distance as those which diverged horizontally from the same object, and thus impaired vision resulted.

“That the refractive condition of the eye may be materially altered by the action of belladonna I presume most of you are aware. The eye is rendered highly presbyopic, in consequence, as I believe, of the ciliary muscle by which the focal distance of the healthy eye is regulated, being paralysed by the action of the narcotic.

“Now, the impaired vision which results from strabismus is more nearly allied to presbyopia than to any other defect, as you will be convinced of, on comparing the subjective phenomena of strabismus with those which follow the application of belladonna to the eye, or from arming the latter with a deep concave lens.

“I will read you a few notes of an experiment I performed on my own eye in confirmation of this position.

“ABSTRACT OF RESULTS OBTAINED BY THE APPLICATION OF BELLADONNA TO THE RIGHT EYE AT HALF-PAST NINE P.M., SEPTEMBER, 14, 1840.

“‘In reading or writing the unaffected eye only is used, and on closing it not a letter can be distinguished by the other, although the lines of

print or writing with their interspaces can be discerned with very undefined outlines. With the greatest difficulty, the words

‘PRINTING AND PUBLISHING’

can be made out in the title-page of the ‘Author’s Assistant,’ and this is rather guessed at than distinguished.

“‘The only difference observable on moving a book to or from me is, that the lines with their interspaces become more distinct as the book is moved away, but, in proportion as these become more defined, so the type becomes smaller and smaller, and appears at a much greater distance than its real situation. On approximating the book, the contrary results take place, and the definition becomes so very indistinct that the lines and their interspaces appear almost of the same hue. But though they appear thus, when the good eye is closed, no distinct second image is formed when both are open, only there is an indistinct cloudiness before the narcotised eye, which interferes with the comfortable vision of the other.

“‘The power of measuring distances is also impaired; thus, when I commence writing, I generally do so above the paper, from not clearly seeing when the point of the pen comes into contact with the paper. This defect is not remedied by closing the narcotised eye, and therefore is independent of it, and to be attributable either to the measuring distance being generally performed with the other eye, or, what is more probable, from this faculty depending on the simultaneous action of both eyes.

“‘On placing a convex lens before the narcotised eye, vision becomes distinct and perfect; on adapting it to the sound eye the vision of this is more distinct than without it, as none of the floating haziness before the other eye is now observed.

“‘This high state of presbyopia came on gradually, a few minutes after the application of the belladonna was made; the objects first appearing smaller, and the focal distance being greater; thus, in reading, the words on the left half of the line were seen of their natural size, with the left eye, and those on the right much diminished with the right or narcotised eye.

“‘The latter soon ceased to distinguish the words, and then the left only was employed in vision, while the right impeded it, with the indistinct haziness, so that vision was clearer when this eye was closed.’

“Now, if such results as these can be produced by paralysing the ciliary muscle, it is surely not unreasonable to infer that a loss or increase of power of one of the recti muscles, by altering the form or tension of the eyeball, may interfere with its adjustment for distinct vision, and so occasion the phenomena we are endeavouring to explain.”

In conclusion, we would only add, that the many valuable observations and facts contained in these lectures recommend them very strongly to the attention and perusal of medical men.

Practical observations on Aural Surgery, and the nature and treatment of Diseases of the Ear. By W. R. WILDE, F.R.C.S., Surgeon to St. Mark's Hospital, Honorary Member of the Royal Medical Society of Stockholm, &c. 8vo. London, Churchill, 1853; pp. 506.

In this valuable and truly practical work, the history, symptoms, causes, mode of treatment, and results of the most frequent and remarkable diseases of the ear, are set forth with a clearness and comprehensiveness deserving our highest meed of praise. The work is divided into eight chapters, with an appendix on deaf-dumbness; the first three chapters being devoted to the bibliography, diagnosis, and statistics of ear diseases, and the remaining five to the diseases incident to the various parts of the organ of hearing.

In the chapter on diagnosis, Mr. Wilde lays much stress on the importance of carefully examining the organ.

"In making examinations of the meatus and membrana tympani, the chief requisite is a strong direct light, transmitted without interruption to the tympanal membrane, or that portion of the passage which we wish to examine; and for this purpose no artificial illumination is equal to the sun's rays." Of the various specula in use, Mr. Wilde prefers the short conical tube, as the simplest and most effectual instrument for examining the condition of the membrana tympani, and the external auditory canal.

In investigating the condition of the middle ear, Mr. Wilde employs the Eustachian tube catheter of Kramer. For our own part, we consider this instrument far inferior to that of Mr. Pilcher, or that of Deleau; and Mr. Wilde himself admits that "the slightest movement on the part of the patient, either of the anterior naris, which is irritated by the foreign body, or the top of the pharynx, where all the parts concerned in deglutition are more or less strained and excited, may disadjust the instrument; the slightest effort at deglutition, even the act of swallowing the saliva, will often effect this." We may add, that much experience in the employment of this instrument, has convinced us, that it is not only difficult to maintain it in its position, but that air or liquid, injected through it, scarcely ever reaches the tympanum. The cases which call for the use of this instrument are much more rare than is usually supposed; and upon this point the two following aphorisms by Mr. Wilde cannot be too constantly borne in mind: "Whenever the patient is himself able to inflate the tympanum, never use any artificial means to do so." "Whenever there is reason to believe that the cavity of the drum is inflamed, carefully abstain from all poking with catheters, or any attempt to introduce foreign substances into that delicately organized portion of the animal machine."

On the practice of indiscriminately probing and syringing the ears without a proper inspection of the parts, Mr. Wilde animadverts with some severity, and we think with justice.

In the chapter on statistics the author gives a table of 2385 cases of ear disease occurring at St. Mark's Hospital; and from an abstract of 200 of these the following results were obtained:—

Of the 200 affected 101 were males, and 99 females, their ages being in the following proportions: Under 5 years, 4; from 5 to 10 years, 19; from 10 to 20 years, 63; from 20 to 40 years, 82; from 40 to 60 years, 29; above that age, 3.

In 27 instances both ears were similarly and nearly equally affected. In 100 instances, both ears were diseased, but varied considerably on each side as regarded the duration, hearing distances, morbid appearances, and, in some cases, the cause. In 35 cases the right, and in 38 the left ears alone, were affected.

In 27 persons the disease was of less than one month's duration; in 40 it had been in existence from one to 6 months; in 17 from 6 to 12 months; 45 persons were affected from one to 5 years; 29 from 5 to 10; and 34 over that period.

70 could not hear the watch under any circumstances; 4 heard on its being pressed against the auricle; 61 on merely touching that part; 125 within 6 inches; 22 from that distance to 3 feet and upwards; and in 18, the hearing distance was either normal or unrecorded.

Tinnitus was present in 182 cases; in 58 there was none.

In 115 instances the patients had experienced pain in one or both ears, at some particular period of the disease; while in 124 they stated that they never had had pain.

The disease was attributed to cold in 63 cases; to scarlatina in 14; to fever in 8; to measles in 3; to influenza in 3; to scrofula in 4; to syphilis in 2; to bathing in the sea in 5; to injury or accident in 11. It occurred after parturition in 3; after erysipelas in 2; after small-pox in 1; after intemperance in 1.

The auricle was healthy in 264 cases; it presented congenital peculiarities in 10, and was diseased in 26.

The external auditory canal was normal in 68 cases; dry and devoid of cerumen, with the membrane whiter than natural and slightly wrinkled, or presenting towards its outward margin a few dry scales, in 78; it was coated with discharge, the lining thickened, and frequently of a pink colour, or vascular, in 83 instances; and of these 18 had polypi growing from some portion of the canal. In 26 the canal was inflamed; in 9 its walls were so much thickened or approximated as to give the external auditory aperture the appearance of a mere slit. Bony growths were presented in 4; and a few cases occurred of condylomata, and other protuberances filling up the meatus.

The state of the membrana tympani was found natural in only 10. In 176 it was thickened and opaque, in whole or in part; these opacities varying as much in shade as the same forms of disease in the cornea, from a slight nebula to that of a dense white leucoma. The amount of polish was various; in many cases the surface resembled muffed glass; in others, although there was considerable opacity, the normal shining character was preserved. In 121 cases the membrane was more or less vascular, either uniformly so, or the vascularity presenting a zone round the inferior attachment of the membrane, not unlike that seen in cases of corneitis. In 53 the membrane was more or less collapsed, and most of these showed evidences of thickening

and opacity. In 48 the membrane was perforated, the size and position of the aperture presenting great variety; while in 13 the great bulk of the membrane was removed. In 22 the membrane could not be seen, owing to obstructions in the auditory canal.

The state of the middle ear and Eustachian tube is not so satisfactorily recorded. In 89 cases there is no record of its condition; in 129 it was inflatable, and in 73 uninflatable.

The state of the throat was normal in 181 cases out of the 200; "a fact," observes Mr. Wilde, "which goes far to disprove all that has been written upon what has been termed throat-deafness."

The chapter devoted to the subject of myringitis, or inflammation of the *membrana tympani*, is well worthy of perusal; and we think Mr. Wilde has clearly established the fact, that a large portion of the incurable cases of deafness which are met with in practice have originated in inflammation of this membrane, and of the tympanic cavity.

In the acute form of this disease Mr. Wilde recommends the free abstraction of blood by leeches, applied not behind the ear as usually practised, but just within the meatus, the auditory canal having been previously filled with cotton wool, to prevent them going in too far. The bleeding should be encouraged by warm applications and poultices; and, if necessary, kept up by relays of leeches for ten or twelve hours together. Having leeches, fomented, and purged, James' powder, combined with small doses of blue-pill and henbane, should be given; while in the more advanced stage of the disease counter-irritation behind the ears may be usefully employed. Mr. Wilde also places great reliance on mercury, given to the extent of affecting the gums, and under the influence of which the patient should be kept for some days. He cautions the profession against treating these inflammatory affections as merely nervous. "A very curious impression," he observes, "exists among, and is too frequently acted on by, the profession, that earache is a neuralgic affection; to this very general mistake must we attribute the practice so frequently, and empirically resorted to, of pouring into the ear the various nostrums, sedatives, and stimulants calculated to allay pain in external parts. So rare, however, is true neuralgia of the ear, that Dr. Kramer says he 'never observed earache without evidence of inflammation, either of the meatus or of the *membrana tympani*.'" Though not prepared to go this length with Dr. Kramer, Mr. Wilde admits that he has not met with more than one or two instances in which he could not discover some direct visible cause for it; and therefore he concurs with Kramer, in denying "to those persons the right of pronouncing a decisive opinion on the existence of a nervous otalgia, who do not understand investigating the *membrana tympani* in bright sunshine, and with the aid of the speculum; and who are not in the habit of doing it."

As the majority of the inflammatory affections of the ear terminate in suppuration, it necessarily follows that otorrhœa must be a frequent accompaniment of deafness. Mr. Wilde has accordingly devoted one chapter exclusively to its consideration. It is a disease which originates in infancy and youth, seldom appearing in middle life, and still less frequently in advanced years; and if there is one disease more

than another which is indicative of a strumous diathesis, it is otorrhœa. This commences either by a thin whey-like discharge from the meatus, arising from a vitiated state of the lining of the tube and membrana tympani, or by suppurating glands, communicating by means of a fistulous opening with the auditory canal. It is a very frequent sequel to the eruptive fevers, especially scarlatina; and in the latter it occurs in three ways: either by direct extension of the inflammation of the skin into the external meatus and membrana tympani; by the diseased condition of the mucous membrane of the throat, passing up through the Eustachian tube, and producing suppuration in the cavity, and perforation of its external septum; or, lastly, by the abscesses which take place in the neck, and around the meatus, opening into that tube, and there inducing and maintaining, even after they themselves have healed, otorrhœa from the diseased state of this portion of the organ.

With respect to the nature of the discharge, it varies at different times, and even in the same individual, from a thin, starch-like sero-mucous fluid, containing scales of epithelium, to a thick yellow pus. It is sometimes sanguineous; and in such cases the disease is usually complicated with polypus. It is often of so acrid a nature as to excoriate the auricle, and even the side of the neck; while in other cases it is exceedingly fetid.

The fetor of the discharge is supposed by many to indicate caries, but this is not the fact; most ear-discharges becoming, after a longer or shorter period, more or less fetid. From what we have just stated it would appear that the seat of these discharges may be either in the external auditory canal, in the tympanum, or in both together; and in most chronic cases, according to our experience, the latter is the more frequent, so that the division of otorrhœa into internal and external, which has been made by some authors, can only hold in a limited number of cases. This is somewhat at variance with Mr. Wilde's statistics of the disease, inasmuch as out of 647 cases of otorrhœa, 55 only had the membrana tympani either partially or wholly destroyed.

A question of some importance suggests itself with reference to these chronic ear-discharges. Is it advisable to endeavour to stop them, or are we to be content with merely washing out the ears with a little water, and leave the discharge to take its own course? Mr. Wilde is an advocate for the former method of treatment; and agrees with Saunders that no argument can be adduced against the cure of this disease that is not equally conclusive against all others. Mr. Wilde recommends a case of simple external otorrhœa, to be treated with mild astringent lotions, such as the liquor aluminis compositum of the London Pharmacopœia, or the liquor plumbi, which may be poured into the ear till it fills up the meatus, and allowed to remain there for a few minutes. Syringing with plain tepid water should be insisted on, twice a day, or oftener, according to the quantity of the discharge, while the surface of the meatus should be painted with a solution of nitrate of silver (ten grains to the ounce) every second day. Along with this local treatment general remedies must be adopted, especially where there is a constitutional taint. Cod-liver oil and Peruvian bark

are those which Mr. Wilde has found most conducive to correct the strumous habit.

When the otorrhœa is complicated with polypi or caries, its cure is always more tedious and uncertain. The former are very difficult to be completely eradicated, and till this is effected, the otorrhœa will continue, spite of all remedies.

Caries and necrosis of the temporal bone add much to the danger of the disease, and require a different mode of treatment. The inflammation is liable to extend to the brain and its membranes, and so produce fatal results. In the majority of these instances Mr. Wilde is of opinion that the disease has proceeded from without inwards; and what was originally an otorrhœa, from an inflamed mucous and periosteal membrane, has spread thence to the bone itself; hence he concludes, by intreating his professional brethren to examine with greater care diseases of the ear, to be more guarded in the opinions they give with respect to aural discharges, and instead of leaving them to nature, and promising patients that they will grow out of them, to endeavour to heal them in their early stage, as a class of diseases which, independent of their unseemliness and injurious effect upon hearing, may at any time give rise to symptoms which may prove destructive to life.

We have derived much satisfaction from the perusal of this work, and can conscientiously recommend it as well worthy of the high reputation of its author.

The Pathology and Treatment of Stricture of the Urethra, both of Male and Female: Being the Treatise to which was awarded the Jacksonian prize for the year 1852. By HENRY THOMPSON, F.R.C.S., M.B., Honorary Surgeon to Marylebone Infirmary. (8vo. London, Churchill, 1854. pp. 424.)

The subject announced on the title of this volume, has during the last few years furnished the profession, and even it must be confessed the non-professional public, with a great number of monographs professing to elucidate it in some one or more of its relations. Perhaps there is no other single question in the wide range of human pathology, which has of late been so frequently discussed through the agency of the periodical press, or which has in one way or another been so prolific of authorship.

If the dictum of the late Mr. Colles, of Dublin were true, that organic stricture of the urethra is a 'very uncommon disease,' we might conclude that the subject had already received sufficient attention, if indeed it had not been rendered too prominent, and been endowed with an importance not warranted either by the frequency of its occurrence, or the gravity of its consequences. Without assenting however altogether to the sentiment expressed by that experienced surgeon, we are quite certain that real organic contraction of the urethral canal is a much less frequent affection than some appear to suppose. The sum total of the evidence of its existence in certain cases which have come under our own immediate notice, has been unquestionably re-

solved into the awkwardness or inexperience of the operator who has discovered it. Nothing is more certain than the fact that a careful and educated hand will easily pass a full-sized instrument into the bladder for patients who, it may be, during months previously have been suffering all the tortures and the injury which a rough or inexperienced manipulator will inflict with small sounds, in the belief that narrow, perhaps almost impassable stricture of the urethra exists. All the symptoms of the affection may be present while the canal possesses an ample patency, and the skill and shrewdness of the surgeon are no less exemplified in detecting the real nature of such a case, than in conducting the treatment of the true organic disease to a successful issue.

But notwithstanding the consideration which has apparently been bestowed upon the subject of urethral stricture, and the existence of numerous memoirs relating to it, it is to be presumed that the council of the College of Surgeons entertained an opinion that enquiry was still needed, at least in reference to some points connected with it, and that these were comprehended under the very important heads of pathology and treatment, according to the terms proposed as the subject of competition, and adopted by Mr. Thompson as the title of his work. As might be anticipated therefore, the scope and design of the volume before us differ from those of any of its predecessors, in some important particulars. While hitherto the numerous writers on stricture have almost invariably been satisfied with giving their own individual experience alone, in relation to some peculiar method of treatment, or indeed in some cases by furnishing *à priori* suggestions merely, our author has aimed at presenting a comprehensive review of all past experience, and has endeavoured to bring to the test of careful scrutiny the various proceedings which at one time or another have been presented to the notice of the profession, for alleviating or curing the disease in question. How far he has succeeded in the attempt we shall give our readers the means of judging for themselves, by presenting them with a brief outline or summary of the work.

Mr. Thompson devotes his first chapter to an exposition of the anatomy and physiology of the male urethra, giving a very complete, at the same time succinct account of the most recent researches relating to these interesting subjects. Not satisfied with collating the labours of previous observers, he has embraced some very ample opportunities which have been afforded him of making original dissections, and he has recorded the results of these in reference to the measurements, relations, and direction of the canal. He draws attention especially to the difference which exists between the length of the urethra in the living and dead subjects, and grounds these upon certain important deductions affecting both the mode of observing pathological preparations, and the practice of employing instruments in the urethra. On this subject our author may speak for himself:—

“Accordingly, with a view to the solution of this question, I have pursued the following course with a considerable number of bodies, which it has fallen to my lot to examine. The penis and bladder having been carefully removed from the pelvis, in the usual manner, the entire passage is laid open along the upper aspect. The parts are then placed,

being first moderately extended, upon some smooth polished surface, as on a common earthenware dish, and so permitted to take, by their own elasticity, any form or length, which their component structures may determine. The measuring tape is then applied. The average result of the application of this process to sixteen adult bodies, is as follows:—

| | | | | | |
|--|---|---|---|---|------------|
| TOTAL LENGTH, from anterior border of uvula vesicæ to meatus | | | | | |
| urinarius externus | . | . | . | . | 8½ inches. |
| Dividing the canal in the usual manner into spongy, membranous, and prostatic portions, we have— | | | | | |
| Length of <i>spongy portion</i> | . | . | . | . | 6½ " |
| " <i>membranous ditto</i> | . | . | . | . | ¾ " |
| " <i>prostatic ditto</i> | . | . | . | . | 1¼ " |
| | | | | | — |
| | | | | | 8½ |

"The greatest measurement was 9 inches, the smallest $7\frac{3}{4}$ inches. Of the 16, no less than 10 presented measurements which did not deviate more than a quarter of an inch from the average, and ranging within three eighths of an inch only; that is to say, between $8\frac{1}{4}$ and $8\frac{5}{8}$ inches inclusive.

"Mr. Briggs, formerly of the Lock Hospital, has made some investigations into the subject, which came to my knowledge since many of the post-mortem measurements just recorded had been ascertained. His experiments were made upon the living subject; and, inasmuch as the practical benefit of these researches must be found in relation to the use of instruments during life, it is confessedly of more importance to ascertain, if possible, the length of the canal in that condition, than after death. He states, that the average length of the urethra is about $7\frac{1}{2}$ to $7\frac{3}{4}$ inches. I have, therefore, embraced opportunities of testing his method, and this in very many instances, and have been fully convinced of the correctness of his observations.

"It will therefore be borne in mind, that these two measurements of $7\frac{3}{4}$ inches and of $8\frac{1}{2}$ inches, respectively, relate to the average length of the urethra in the two conditions of life and death. That this difference exists, it will be particularly important to recollect, since all accurate researches into the pathological anatomy of stricture are, of necessity, confined to an observation of the parts *after death*, while, in relation to treatment, the measurement *during life* is that which alone must be remembered."

Each of the structures composing the urethra as well as those which are connected with it, come under consideration, including the perineal muscles, the muscular tissue of the canal itself, the fasciæ, the erectile tissues, &c. In connection with the last-named structure, Mr. Thompson has for the first time clearly demonstrated the true arrangement of a fibrous partition existing in the bulbous part of the corpus cavernosum, and given drawings of it from specimens taken from fourteen bodies, now forming preparations sent by him to the museum of the Royal College of Surgeons. The bearing of this upon operative procedures in the middle line of the perineum in connection with the subject of hæmorrhage is thus alluded to:—

"It would appear, then, that the relation of structure to the question of hæmorrhage stands nearly thus:—

“That the entry of the arterial branch of supply at about a half or three quarters of an inch before the posterior extremity of the corpus spongiosum, renders incisions at this point liable to become the cause of considerable hæmorrhage. That the existence of several fibrous partitions in the part posterior to the entrance of the artery, and especially one in the middle line, may tend to render incisions into that part of the bulb so defended, less productive of hæmorrhage than in parts where these do not exist.

“But when the difficulty, it may be said impossibility, of hitting the exact line of this slight partition, as may be proved on the dead body, is taken into consideration, it cannot be seriously argued, I conceive, that the prevention of hæmorrhage depends upon the accomplishment of so delicate an operation. No doubt but the median line in sections of the bulb is the line of safety; and why? Because a short branch of the pudic enters it *on each side*, close to which, if an incision be made, the artery might almost as well itself be opened. But if the section lie equidistant, or nearly so, from the two vessels, the minute meshes of erectile tissue intervening between the section and the artery, entangle within themselves the coagula which are formed, become choked or blocked up, and so conduce most readily to the checking of hæmorrhage, more especially if this be favoured by external cold applications.”

Passing over an ingenious discussion of the functions of the urethra and surrounding muscles, in which certain somewhat original views are propounded, we shall present our readers with the following very clear and methodical digest of the anatomy and physiology of the organs described, which closes the chapter given to their consideration:—

“1. That the urethra is composed of a delicate and sensitive mucous membrane, exceedingly vascular, and well supplied with nerves, the area of which is increased by numerous small glands and follicles; and that it is closely connected by its sub-mucous areolar tissue with *involuntary muscular fibre in every part of its course*, the distribution of which is not quite equal in quantity throughout.

“2. That, in some parts lying between the two, in others, often interlacing with these contractile fibres, but for the most part, lying in longitudinal bundles beneath the mucous membrane, and united by transverse fibres, is also a varying amount of the *yellow elastic tissue*.

“3. That in the prostatic and in the spongy portions of the urethra, the glandular and erectile structures respectively, which lie next in order to the above-mentioned contractile tissues (proceeding from within outwards), are both largely composed of involuntary muscular fibres, and enveloped by an outer layer of the same, which, while they act by evacuating, in either case, the contents of the organ,—in the one, a glandular secretion, in the other, the blood supplied for erection, form also an agency, which, in certain states, is brought to act more or less on the capacity of the urethral canal, and this agency may be somewhat increased by the co-operative action of the accelerator urinæ muscle.

“4. That in the membranous portion, there is also *close contact of voluntary muscle*, the disposition of the fibres of which is such, that it cannot be doubted, that whatever may be its degree or extent, its function is to close the canal at this point; the sphincteric character of the muscle being most strongly indicated by its structure, as well as by what

we infer respecting its actions, as manifested by phenomena both natural and morbid.

"5. That not only does vascular or erectile tissue surround the whole of the spongy part of the urethra, but that a thin layer of it encircles the membranous portion also, and that from the peculiar structure and function of this tissue, laceration or division of it may be attended with considerable loss of blood.

"6. That while the prostatic part is moveable to a small extent in a direction upwards and downwards, in obedience to muscular action, the membranous is nearly fixed and constant in position, from the application of unyielding structures (*fasciæ*) to it, in such a manner as greatly to limit the mobility of the part; and lastly, that, within certain limits the spongy part is moveable in any direction, the bulbous portion being less so in the ratio of its proximity to the anterior layer of the deep perineal fascia by which it is partially retained *in situ*, as well as by the corpora cavernosa, and by the triangular ligament above, uniting the penis to the pubes. The anterior two thirds of the passage (more or less in different subjects) being for the most part perfectly free and mobile."

The second chapter is devoted to the classification and pathology of urethral stricture. All contractions of the urethra are regarded as classifiable into one or other of two categories—"they possess a natural tendency either to be PERMANENT or to be TRANSITORY as regards their character of duration." Transitory strictures are considered as naturally subdivided into those which are due either to local inflammation or congestion,—inflammatory; or to unwonted muscular action either of the voluntary or involuntary fibres, denoted spasmodic; and the reasons which have decided the author to adopt this arrangement are given at some length. The pathology of urethral stricture is next considered, and in a manner which evidences the very remarkable amount of labour which Mr. Thompson has bestowed upon this important portion of his subject. In order to obtain an accurate estimate of the various physical characters possessed by organic stricture, its usual seat and situation, and the results to which it gives rise in other parts of the genito-urinary apparatus, as well as in neighbouring tissues and organs, he made a personal examination of every specimen contained in the numerous museums of London, Edinburgh, and Paris. Thus in almost every page of this part of the work, we meet with references made to specimens which possess more than ordinary importance, or which are adapted for the purpose of illustration, and in the appendix a detailed account of the preparations referred to is subjoined, with the number and such other particulars respecting each, as may enable the reader to examine it for himself if disposed. In this way not less than 300 specimens of stricture were examined, besides an almost equal number of preparations of the bladder, kidney, &c., which exhibited some related morbid condition. Such an enquiry alone could suffice to set at rest the disputed points in connection with the locality of stricture; and it was the previous want of such an one, that has produced the most discrepant statements by our most classical writers, and experienced surgical authorities. Observers had recorded the vague result of their own impressions, for the most part as obtained while passing instruments on the living. In illustration of this, Mr. Thompson

has quoted and collated the opinions of eleven or twelve of the highest authorities, both English and French, from the time of Hunter to the present day; and the evidence thus afforded is of a most conflicting character. The result of his own examination may be quoted here:—

“In examining the museums named, I have personally submitted to a close and careful inspection not less than three hundred preparations of stricture of the urethra, of which I possess notes made on the spot of two hundred and seventy, the rest being examples which, from decay or other circumstances, it was impossible correctly to classify.

“These examples may all be comprehended by the three following classes:—

“I. STRICTURES OCCURRING AT THE SUB-PUBIC CURVATURE, *i. e.*, at the junction between the spongy and membranous portions and its neighbourhood; the latter term being understood to comprise an inch of the canal before, and three quarters of an inch behind that point, thus including the whole of the membranous portion.

“The junction itself is the point at which stricture is most frequently situated. Next is the extreme anterior boundary of the division, a spot which is one inch in front of the preceding, and almost as frequently affected; while, between these two points, six examples of stricture are met with for every one behind the junction, in which latter situation therefore they are very uncommon. Most rarely is a stricture found so far back as the posterior part of the membranous portion.

“II. STRICTURES OCCUPYING THE CENTRE OF THE SPONGY PORTION, *i. e.*, a region extending from the anterior limit of the preceding, to within two inches and a half of the external meatus, and measuring therefore about two and a half to three inches in length.

“III. STRICTURES OCCURRING AT THE EXTERNAL ORIFICE, AND WITHIN A DISTANCE OF TWO INCHES AND A HALF OF IT.

“The following is an analysis of the 270 preparations referred to; they exhibit 320 distinct strictures:—

“Total number of strictures 320

| | | | |
|---|-------------|-----|---|
| „ | in Region I | . . | 215 or 67 per cent. on the entire number. |
| „ | „ II | . . | 51 „ 16 „ „ „ |
| „ | „ III | . . | 54 „ 17 „ „ „ |

320

“Of these,

“There were 185 examples of *one stricture only*, situated in Region I.

| | | | | | |
|---|---------|---|---|---|----------------------------|
| „ | 17 | „ | „ | „ | Region II. |
| „ | 24 | „ | „ | „ | Region III. |
| „ | 8 cases | in which the urethra was strictured in all three Regions. | | | |
| „ | 10 | „ | „ | „ | in Region I and II only. |
| „ | 10 | „ | „ | „ | in Region I and III only. |
| „ | 13 | „ | „ | „ | in Region II and III only. |

“Lastly, I may confidently assert that there is not a single case of stricture in the prostatic portion of the urethra, to be found in any one of the public museums of London, Edinburgh, or Paris. I am disposed

to believe that some observers have been deceived in reference to it, or that it owes its supposed existence to inferences drawn from the results of examinations of the living body, which can by no means be admitted as evidence on this subject."

Our limits will not permit us to notice the long and detailed description of the form and other characters which organic stricture is liable to assume, or of the pathological conditions of allied organs which may result from the affection; neither the very complete account presented us of all that is known respecting growths into the urethral canal. The much vexed question of impermeability, however, may be excepted, as to this our author appears particularly to have directed his attention. He comes to the conclusion that organic obliteration of the urethral canal sometimes although unfrequently takes place, and that it has rarely, perhaps never, arisen from any other than traumatic causes, such as wounds or severe contusions, which lacerate or destroy a portion of the urethra. In these cases, fistulæ of course exist; three examples are pointed out in the museums of London.

Proceeding to the third and fourth chapters which treat of the symptoms, pathological effects and cause of organic stricture, we find that the same laborious pursuit of well-ascertained facts has characterised our author's investigation in relation to this portion of his task. Not satisfied with accepting the details found in the beaten track of his predecessors, he has presented what appears to be a most minute and truthful history of stricture, its causes and results, deduced from no less than 220 cases carefully reported at full length, many by himself, several of which are given in the appendix *in extenso*, with the addition of a few brief practical remarks upon each. The whole are, however, so placed in a tabular form, that every particular of importance respecting the causes, duration, and consequences in relation to any one of the number, may be ascertained at a single glance. This table is also analysed, and the result is brought into one view at page 135.

An interesting and highly important practical essay on the pathology of strictures which are only of transient duration, forms the fifth chapter. The pathology of spasm is discussed at great length, and its multitudinous causes described. We wish to call the reader's attention particularly to that portion of it which relates to the influence of the gouty diathesis in giving rise to the symptoms of stricture, a careful perusal of which will amply repay him. An extract of moderate length would not do justice to the subject. (*Vide* pp. 140—5.)

We now come to the second part of the work, which commences in the sixth chapter, by treating of the diagnosis of stricture of the urethra. Having premised at its commencement that symptoms alone are insufficient to determine the existence of organic contraction, the necessity for the employment of an exploring instrument follows as a matter of course, and the first question presenting itself is, what is the kind of instrument most desirable to employ and most practically useful? Here again our author appeals to nature, and inquires, what is the exact direction of the canal to be explored? And this, which has been demonstrated in the first chapter, is assumed to afford the proper indication as to the form of the instruments in question. By diagrams he illustrates the curve which a catheter or sound ought on *à priori*

principles to possess, and he asserts that practice confirms the truth of his theoretical views. The form which Mr. Thompson recommends, differs a little from that in common use, by being rather more curved; and he especially reprobates an instrument not uncommonly met with, which presents a straight part at the end of the curve, as being "wholly unfitted to traverse the urethra with ease and safety." He makes some judicious remarks also upon the relation existing between the axis of the stem of a catheter and the axis of its point; and shows that it is impossible "to predicate with unerring certainty the direction which the extremity of an instrument takes while it is hidden in the urethra and bladder," unless the relation between them is constant, and known to the operator. Following these remarks we commend, especially to the student, the highly practical and sound instructions which are given in relation to the employment of instruments, with a view to the diagnosis of stricture; as well as the remainder of the chapter, which continues the subject in the consideration of the treatment by dilatation at great length. Of *all* modes of treatment, Mr. Thompson says, "it is the most desirable to employ whenever the case admits of it. At the same time, it is by far the most generally applicable, as being that which is beyond all question best adapted to cure a very large proportion of all the cases presented to our notice." Various means of dealing with a case of extreme difficulty are described, by various instruments, both solid and flexible. Our author manifests a strong preference for those of the former kind, as a general rule, and respecting the comparative merits of the two, thus expresses himself:—

"There are general principles which should guide us in distinguishing as to the propriety of choosing either. Neither ought to be used indiscriminately: one or the other must generally be the better agent in any given case. These may be stated in general terms as follows:—When the course which the urethra takes is normal, not made to deviate much from the ordinary direction, by any obstruction external or internal; when its track, although devious, is known, and the position and nature of the obstacles are recognised; when there are good reasons for believing that it is desirable to follow any direction in particular, as along the upper part of the canal only, or otherwise; or when, for want of indication, it is intended to maintain steadily the natural course as the safest to follow: when, in short, we have decided on the way to be traversed, and desire to take the command of the instrument into our own hands, and to keep it there, we must use one which will not yield to impediments, or be deflected from the intended direction by them. When, and only when, we find the obstacles of such a nature, that the only chance of passing them is found in relinquishing the guidance of the instrument and permitting it to worm its own way, then should we choose a flexible one. Lastly: such are generally safer in the hands of those who are unacquainted with the management of instruments in the urethra altogether.

"For what other purpose can the operator with reason use an instrument which bends, and the point of which cannot be governed by his hand, than for this. The power of controlling its course is the very last thing I should wish to resign in the management of a catheter, ex-

cept for those cases in which the abnormalities and distortions met with put to nought all anatomical knowledge, and compel me to trust in an instrument whose flexibility enables it to find the passage, without inflicting injury upon the structures around. But such, I must confess, are extremely rare."

Little is said in favour of model bougies and similar inventions for obtaining a cast of the face of a stricture. We quite agree with Mr. Thompson in believing that "less is learned in this way than some books appear to teach." The contrivances suggested by Mr. Wakley, Mr. Holt, Dr. Arnott, and others, pass also under review. Of the former, Mr. Thompson speaks with some degree of favour, in which we certainly cannot concur with him, although evidently not from practical acquaintance with their use, for referring to each and all of these suggestions, he says, "the objections to the use of well-polished solid sounds are greatly lessened by care and skill in their management; and although a better method may possibly yet be invented, I do not at present know one that deserves the application of that term."

Chapter the seventh is devoted to the employment of chemical agents in the treatment of stricture. The history and practice of this method is described from the 16th century to the present time, with the very few modifications which it has undergone during that period, probably from the very limited favour with which it has generally been received at the hands of experienced surgeons. All the evidence which our author has been able to obtain in reference to this mode of treatment, has nevertheless been brought together, and the result, on the whole, does not encourage us to look for any great benefit from the employment of either the nitrate of silver or the caustic potash; while there can be little doubt that the indiscriminate or frequent use of these agents is calculated to occasion much mischief in so delicate a structure as the human urethra, entirely concealed as the process of application must be from the view of the operator.

In the succeeding chapter the treatment by internal division is considered. The various modes proposed for accomplishing these operations are described from the beginning to the last century to the time of Stafford, and from that of the present day, including the recent proposal of M. Reybord, to whom the Academy of Medicine, of Paris, awarded the Argenteuil prize, for his modification of one of the old instruments alluded to. Mr. Thompson, in common with most English surgeons, we believe, has no hesitation in limiting the employment of internal division to the anterior part of the urethra, in cases for which a full trial of dilatation has certainly failed to afford adequate relief.

The next chapter is devoted to a most careful and laborious consideration of the whole question of external cutting operations for the cure of stricture. Carefully tracing the history of these procedures from the year 1650 to the present era, our author details the progressive steps by which we arrived, soon after the commencement of the present century, in the hands of Mr. Arnott, Mr. Guthrie, and others, at the present method of dissecting through an impermeable stricture, that is to say, a stricture which proved impassable to instruments after long and repeated attempts by the most skilful surgeons of the time.

To this operation he proposes that the term "perineal section" should be restricted; and in speaking of its merits he observes,—

"Now as to the applicability of the operation of perineal section, whatever may be said of it in circumstances of retention, the consideration of which will come hereafter, the case must be bad indeed in which we are compelled to resort to it as a means of cure. All surgeons have regarded it at best as a dangerous remedy. The uncertainty which must attend an attempt to divide, by mere dissection from the surface of the perineum, an inch or more of contracted urethra, whose calibre has been reduced to what is almost a capillary bore, especially if the tissues are unnaturally thickened and condensed, will be admitted by all; and few perhaps would undertake to assert, unless a grooved director can first be passed, that an accurate division can be insured or indeed that it is ever made. Thus Sir B. Brodie says—'Even under the most favorable circumstances it cannot be otherwise than doubtful whether the stricture be properly divided, that is, whether the incision has passed through the narrow canal in the centre, or through the solid substance on one side of it. I suppose that no surgeon would recommend such an operation except as a last resort, where no instrument could be made to pass through the stricture by other means.' Every chance of getting an instrument through the stricture that can possibly be derived from the employment of rest and constitutional treatment, in addition to the most careful and repeated manipulations, should be exhausted before we consent to employ it, failing in which its necessity must be admitted as a last extremity."

The next step in the history is the proposal of Mr. Syme, which, although frequently confounded with the operation just alluded to, is a wholly distinct, we may say, opposite proceeding. That gentleman, now some ten years ago or more, appears to have arrived at an opinion pretty nearly identical with that of Sir B. Brodie quoted in the preceding extract, in relation to the dangerous character of the perineal section. Further, he came to the conclusion that fewer strictures were really impermeable to instruments than were generally supposed, and acting on the conviction by giving more time and patience to the attempt, found himself succeeding with cases, which he had previously been led, in common with the rest of his brethren, to regard in that light. Finding, however, that the worst cases very soon relapsed, or exhibited so much constitutional irritability as to render the treatment by dilatation either inefficient or impracticable, he passed a grooved staff of small size through the stricture, and cut down upon it from the perineum, so as to divide the whole of the contracted part, stating that the requisite preliminary proceeding could always be accomplished. He then passed a catheter into the bladder, and retained it for two or three days, and employed a certain amount of dilatation during and after the healing of the perineal wound. This is the whole sum and substance of the Edinburgh prescription for the worst cases of stricture; and this is that which, stripped of the acrimonious controversies which have been discreditable to both parties engaged, is the entire *questio verata* of the day in relation to urethral stricture. This simple proposition to divide the contracted tissue upon a director previously introduced, rather than without any such

guide at all, has been the cause of discussions as personal as rancorous, as unworthy of the gentlemanly-like conduct expected from the members of a liberal profession, as have been witnessed in the arena of theological debate, between disputants armed with metaphysical subtleties, not with questions of fact, which a little time and patience, a clear intellect, and a truthful spirit, by the aid of inquiry, might verify or disprove. Exhibiting no sign of partisanship, or even personal predilection, Mr. Thompson has entered upon the task of ascertaining whether or not the results of Mr. Syme's operation of external division are such as to commend it to the good opinion of his brethren.

First, the question of impermeability is disposed of, respecting which Mr. Syme was certainly at one time anything but explicit, but which is at last resolved into the following terms:—

"Mr. Syme's assertion then amounts to this, and can be understood to mean no more, viz., that wherever the urine passes out by the external meatus a catheter may be got in. Thus he writes: 'As to the question of 'impermeability,' I simply maintain, that if the urine passes out, instruments may always, through care and perseverance, be got in beyond the contraction. It should be observed that the case here is quite different from that of a distended bladder requiring *immediate* relief. I have never maintained that in such circumstances the introduction of a catheter was always practicable.'"

He then enters upon an examination of the cases operated upon:—

"The operation of dividing a permeable stricture upon a grooved sound as a means of cure has been performed, as far as I have been able to learn, about 115 or 120 times. Through the kindness of those gentlemen whose names are given below, from each of whom I have recently received communications either in person or by writing, I have obtained the histories of many cases hitherto unpublished, and have collected more or less of information, the results of which are annexed in general terms.

| | | | |
|-------------------------------|---|---|--|
| "By Mr. Syme, above 70 times. | | | No death; a large proportion of the cases successful. |
| Mr. Fergusson . | 4 | " | One death; two tolerably successful; one doubtful.* 'Outlines of Cases,' Nos. 1 to 4. |
| Mr. Cock . . . | 5 | " | One death; the remainder more or less successful. See 'Outlines of Cases,' Nos. 5, 6, 7, 8, and 9. |
| Mr. Coulson . | 8 | " | One death; the remainder more or less successful. 'Outlines of Cases,' Nos. 10 to 17. |
| Mr. Erichsen . | 5 | " | The majority more or less successful. One or two doubtful. 'Outlines of Cases,' Nos. 18 to 21. 'Reported Cases,' No. 17. |
| Mr. Haynes Walton | 1 | " | Successful. 'Outlines of Cases,' No. 22. |
| Mr. H. Thompson | 1 | " | Successful. 'Reported Cases,' No. 11. |

* Another case by Mr. Fergusson, reported in the 'Medical Gazette,' April 12, 1850, is not included here, as the operation of lithotomy was performed at the same time by extension of the perineal incision, and it might be objected that this, therefore, was not a fair case in point.

| | | |
|-----------------|----------|---|
| Mr. Mackenzie | 7 times. | One death; the remainder more or less successful. 'Outlines of Cases,' Nos. 23 to 29. |
| Mr. Dunsmure | 3 „ | Two more or less successful, one unsuccessful. 'Outlines of Cases,' Nos. 30 to 32. |
| Dr. F. Thompson | 2 „ | Successful. 'Outlines of Cases,' Nos. 33, 34. |
| Dr. Cruickshank | 1 „ | Successful. 'Outlines of Cases,' No 35. |
| Mr. Fiddes | 6 „ | Five successful, one doubtful. 'Outlines of Cases,' Nos. 36 to 41." |

All the cases operated upon by other surgeons than Mr. Syme, 41 in number, were either seen by Mr. Thompson, or put in direct communication with him by letter, and their histories reported in the appendix, with the most recent information which could be obtained respecting them. The examination proceeds as follows:—

"In relation to this subject, two questions present themselves for consideration:

"FIRST, What amount of danger attends the performance of the operation?

"SECONDLY, How far is it entitled to be considered a means of cure."

In reply to the first question, four cases of death only have taken place; the cause in each being without doubt pyæmia. The question of hæmorrhage is next considered, and the evidence respecting it adduced at length, with the following result:—

"No impartial observer who has gone with me thus far will hesitate, I think, to conclude that the occurrence of a certain amount of hæmorrhage, say a few ounces, may be reckoned upon as an occasional, although it appears to be certainly an exceptional result of this operation. Nor can we wonder at this; the bulb of the urethra may be divided, indeed must generally be so to a greater or less extent, and such division has been a source of hæmorrhage, *commensurate with the extent, and depending upon the situation of it*, in the experience of surgeons, from the earliest times, and why it should cease to be so now does not appear. In order to avoid it, the cardinal point of the operation must be carefully attended to, viz., to cut in the median line: and this in sections of the bulb is the line of safety, not on account of some traces of a fibrous partition which does exist there, but because the incision is then equidistant from the two branches of arterial supply which enter the bulb one on each side, and thus the entanglement of coagula in the meshes of the erectile tissue is favoured, which cannot of course take place if the bulb be divided on either side, as the mouth of the artery is then nearly, if not quite exposed. (See 'Anatomy of the Bulb,' pp. 39, 40.) But if hæmorrhage does occur, I am bound to say, that the *difficulty in stopping it ought not to be great*. There being already a full-sized catheter in the urethra, a dossil of lint properly placed between the lips of the incision, and a pad outside, will command it completely if the continued application of cold prove insufficient. At all events, under the worst circumstances no man can bleed to a dangerous extent who receives a proper share of attention from those around him. Few of those, I imagine,

who have passed through a practical surgical noviciate at our hospitals, will fail to remember cases in which they either assisted at, or at least have witnessed, the successful treatment of obstinate hæmorrhage from a perineal incision, by pressure with the finger in the wound, as a last resort, maintained for hours together by changing the assistants as they tired. I am bound to say that dangerous or protracted bleedings are *never the necessary* result of the operation in question, and cannot in fairness be charged to it."

Succeeding to this paragraph we find that—

"Urinary infiltration has also been suggested as a not improbable result of the operation. I can only say I have never seen it, nor have I heard of its occurrence in any quarter. Of all consequences to be feared it would undoubtedly be the most dangerous which could happen, and if so great a hazard were incurred by the performance of the proceeding in question, I do not hesitate to say that its employment would be one of questionable propriety. Of course unless the deep fascia be divided to some extent, infiltration of the tissues is obviously impossible. By adopting a careful manipulation, Mr. Syme states that this may always be avoided. Whether or not, the facts which are indisputable, that any incision of it which can at any time be required need only to be exceedingly limited, and that we have no experience of the occurrence of urinary infiltration in any case, prove that it is not to be apprehended as one of the consequences of the operation, and cannot be ranked among them."

In answer to the second inquiry, as to how far the operation is entitled to be considered as a means of cure, Mr. Thompson says, there are three results which may arise from this operation—

"It may fail to afford any relief.

"It may cure for a short period, and afterwards be followed by a relapse.

"It may effect a permanent cure."

In considering the first, there is an admission of three or four cases in which failure is attributed to erysipelas or the like. The second is admitted also in several cases, and reasons are given for its occurrence, in the insufficient division of the stricture at first, in the want of proper dilatation afterwards, and in the subsequent irregular habits of the patient, &c. The third is noticed as follows:—

"There is therefore no alternative remaining than to admit the existence of a strong probability, that a large proportion of cases must be assigned to the third category, viz., those for whom the proceeding has effected a permanent cure."

The details of the operation are then described with great minuteness, much more so than in any account previously given even by Mr. Syme himself, the author having witnessed its performance on more than one occasion by the originator of the proceeding; and we certainly feel warranted in saying that had that distinguished surgeon taken the pains to explain it which Mr. Thompson has done in these pages, both by verbal directions and illustrative drawings, he would have encountered less opposition, and been less misunderstood than he has been.

It is on this ground that we have deemed it right to enter so fully

upon this part of the subject, although we have given but a bare sketch of the forty pages which are devoted to its discussion, on the work before us. In reference to it, the concluding remarks of the author may be appropriately quoted here :—

“I have felt impelled to discuss the subject fully, if at all. In the present state of divided opinions, and conjectures respecting it, it was impossible to escape the duty of making a laborious, careful, and, as far as possible, unprejudiced examination of the evidence presented in relation to the subject, unless, indeed, its consideration were given up altogether, an alternative which could not for a moment be entertained. I have been compelled to arrive at conclusions, somewhat at variance perhaps with my own preconceived notions; but I have the satisfaction of believing that a fair and correct exposition of this much ‘vexed question’ has been presented as the result of what has certainly been the most arduous portion of my labours in relation to this work. I have at least performed it with most honest intentions to eliminate the truth, as far as has been possible; whether altogether successfully or otherwise, time only, as it augments our experience, can determine.”

Our limits warn us to bring these remarks to a close. Chapter X. presents a synopsis of the treatment of urinary abscess and fistula. Chapter IV. considers at length the important subject of retention of urine, especially in relation to treatment; and analyses carefully the methods of puncturing the bladder now in vogue. We commend the perusal of this to the reader in search of detailed information on these topics. A short chapter is devoted to the causes, symptoms, and treatment of stricture of urethra in the female, and a very succinct and simple practical exposition of rules for the examination of the urine for clinical purposes follows, illustrated by steel engravings of the more common deposits as seen under the microscope.

The last extract we shall make, is that which contains the sum total of conclusions which the author arrives at, in relation to the subject of treatment.

“It now only remains, in pursuance of the principle which has been adopted in regard to each section of this work, to give as briefly as possible, a final recapitulation of the CONCLUSIONS arrived at in relation to the entire subject of Treatment, in order to afford a summary of the main points which it has been my aim to elucidate in the foregoing pages.

“CONCLUSIONS.

“1. That the process of dilatation, carefully and perseveringly employed, is the most safe, efficient, and generally applicable of all means for the treatment of organic and permanent stricture (pp. 173-4).

“2. That while it is successful in curing the majority of cases, there are unquestionably some in which either the effect is so temporary that the contraction reappears on the cessation of the treatment, however long continued, or in which the urethra is so irritable that its employment aggravates rather than removes the symptoms (pp. 205, 255-6).

“3. That the nitrate of silver lightly applied is sometimes useful in the last-named cases, inasmuch as it exerts a salutary influence upon the

diseased surface of the urethra, relieving inordinate irritability, and checking undue vascularity and disposition to hæmorrhage, as it does in similar conditions of the skin and mucous membrane in other parts of the body, and thus it is a useful adjunct to dilatation (p. 219).

"4. That the potassa fusa, as a caustic, is considerably more active than the preceding, and is therefore more dangerous of application. If used at all, it should be applied only in very minute quantities, inasmuch as it is exceedingly difficult to limit the action of so powerful an escharotic, and apply it as a solvent only. It appears occasionally to aid the process of dilatation in the reduction of some strictures, probably by facilitating the solution of their component tissues, when care is taken to employ it in obedience to the condition just named (p. 220.)

"5. That no agent should be employed in any case for the purpose of making an eschar or slough in the urethral canal (p. 220).

"6. That internal division is applicable only to strictures which are situated in that part of the urethra which is anterior to the bulb, and which have been found to resist dilatation (pp. 225-6).

"7. That the distance at which a stricture is situated from the orifice, and the extent to which it implicates the canal, may be so great as altogether to forbid the practice of internal division, for the operation becomes more hazardous, just in the ratio of the extent of the stricture, and extent becomes more formidable in the ratio of its distance from the external meatus, so that it is a far easier proceeding to make internal division of a large portion of contracted urethra, situated in the anterior part of the spongy body, than of a small portion at the bulb or behind it (p. 234).

"8. That dilatation having failed after an ample trial, the stricture being permeable and situated near to the junction of the bulb and membranous portion (a spot already seen to be the most frequently affected), external division made from the perineum upon a grooved staff is for most such cases a safe and efficient mode of treatment (pp. 256 et seq.).

"9. That when the urethra is impermeable, every available means having been patiently and perseveringly employed to pass a catheter through it, but without success, the perineal section may be performed as a means of cure (pp. 251-2).

"10. That when it is necessary to make an artificial outlet to relieve retention of urine, an operation may be performed for the purpose of curing the stricture at the same time, but if the condition of the patient require the proceeding employed to be as simple as possible, puncture of the bladder per rectum is indicated, unless the urethra be dilated in the perineum, when the making a single puncture there will be the best operation to perform (pp. 308-9).

"11. That it is a matter of great importance in the treatment of old or severe strictures, in relation to the mode of treatment employed, to ascertain what degree of organic renal disease exists as fully as our means of observation enable us, inasmuch as its presence renders *all* operations upon the urethra hazardous, and, for the most part, in a degree corresponding with the extent to which the renal organs are implicated (pp. 102-3 and 269).

"12. That since few permanent strictures exist which are not considerably influenced at some time or another by the occurrence of in-

flammation or congestion in the parts around, or by the action of spasm in the adjacent muscular tissues, either separately or conjointly, treatment may be always most advantageously directed to the improvement of the general health, to the subduing of local congestion, and to the removal of those sources of irritation, whether in the urine, in the urinary passages, or in some other and more distant parts, which have been pointed out as liable to excite the phenomena referred to (pp. 203-5 and Chapter V, 'The Pathology of Strictures which are of Transient Duration')."

For ourselves, it remains but to say that we cordially recommend to our readers the monograph before us, as the most comprehensive, accurate, and practical treatise on the whole subject of urethral stricture and its consequences, which has yet been presented to the notice of the profession. It will naturally become the text-book to this important department of urinary pathology.

REPORT ON THE PROGRESS OF MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

Reflections on the duration of Pregnancy, with remarks on the calculation of the day of confinement. By J. MATTHEWS DUNCAN, M.D., A.M., M.D., F.R.C.P.E., Lecturer on Midwifery, &c.

This paper is of great importance, as pointing out a physiological fact which has not yet been applied to the decision of the very difficult question under consideration—the fact, namely, that conception may not take place for a considerable time after the conjunction of the sexes.

“In the beginning,” writes Dr. Duncan, “it will be useful to define the meaning to be attached to some important terms frequently recurring in this discussion, viz., insemination, conception, and impregnation. By the word insemination is to be understood simply the injection of semen into the genital passages, the conjunction of the two sexes. By conception is to be understood the more hidden and mysterious union of the semen and ovum, while the word impregnation implies both of these processes.

“The confusion of the two former of these different processes is so general among obstetric writers, that it is needless to quote authorities for the assertion. That they should always be held distinct in studying this subject will, I hope, be made apparent. For, in fixing the commencement of pregnancy, it is necessary to date only from the period of conception. Authors, in discussing this subject, have delighted to quote as crucial examples those cases where the date of an only connection, or of connections within a short and limited time could be satisfactorily decided. But it is evident that such a date only fixes the time of insemination, and not the time of the commencement of pregnancy. For a woman cannot be said to be pregnant whose body merely contains seminal matter. Pregnancy is a state of fertility, of breeding, which, as Leeuwenhoek long ago pointed out,* cannot be said to commence until such time as may have elapsed after insemination, before the union of the ovum or ova and semen has taken place. This period of time, whatever may be its possible length, must be subtracted from all these supposed crucial cases of the duration of pregnancy. The interval des-

* Hinc, hæc animalcula diutius in tuba sive matrice posse vivere, animo præsumebam meo, ac quoque nostræ mulieres non præcise eo die sive tempore, quo cum viro rem habuerunt, fecondas sive gravidas fieri; sed easdem post octo, aut decem, imo plures quidem dies, postquam coiverunt, gravidas posse fieri, quia post aliquot coitus dies ex multis saltem animalculis, unum animalculum eousque pervenire potest, ut punctum sive punctulum istud, animalculum fovendo aptum, attingat. (‘Arcana Naturæ, etc.’ tom. ii, p. 150, edit. in 4to; Lugd. 1708.)

cribed as the duration of pregnancy, that is, between successful insemination and parturition, must be considered as, in strict language, a false period; and it is so because it contains the period between insemination and conception, during which a woman is not pregnant. Of this interval, then, all such cases must be curtailed.

"Very little has as yet been ascertained as to the possible length of this interval. It was my intention to have attempted to make it out in regard to some of the lower animals; but my inexperience in such investigations, and the pressure of other avocations, have hitherto deterred me from the pursuit of this object. There is, then, at present, no resource in this question but to facts already known. Now it has been ascertained by physiologists that for impregnation it is not necessary the semen should be newly expelled by the male.* Animals have been frequently impregnated, by Spallanzani and others, with semen, which has not only been kept for some time, but has even been variously altered, in mechanical properties at least, in experiments. And there seems to be no limit to the time during which the semen may be kept without losing its virtues, except the term of the life of the spermatozoa.

"That this period is not insignificant, and cannot be passed over without risk of important error, in fact, that it may extend to many days or weeks, will appear from the following observations. We omit the facts in regard to animals so low in the scale as insects, in the females of which the semen is laid up in cavities where it retains its power for months. In regard to the dog, Leeuwenhoek† pointed out that these animalcules might live for more than seven days preserved in a glass tube, and if such be the case in a rude experiment, it may be expected that they would retain vitality considerably longer in the passages of the bitch, where they have heat and moisture supplied under favorable circumstances. That they do live for some days in the genital passages has been proved by abundant observations, although the possible length of this period is not certain. The decision, indeed, of this point by microscopic observations would be a very difficult matter, as it would involve the almost impossible search for spermatozoa over every part of a long tract of mucous membrane. And this search would be necessary, for we know by the experiments of Spallanzani that semen highly diluted, or, in other words, the smallest quantity of semen is sufficient for successful impregnation.‡

■ "On opening the body of a female mammal, one or more days after it has received the male, semen may be found not only in the body and horns of the uterus, but also in the oviducts, and on the surface of the ovary. The spermatozoa are in vigorous movement. These may retain their activity for a week or more in the female organs. And in many insects this period of time is much greater. Here the ova are only expelled long after copulation. The females, therefore, possess a special receptacle in which the moving spermatozoa are preserved until the ova finally reach them. In this receptacle their activity remains uninjured for many months." (Valentin 'Text Book of Physiol.' Eng. Tr., p. 641.)

† "Si enim animalcula plures quam septem integros dies in tuba vitrea vivere possint, quantum temporis illa in matrice, his animalculis recipiendis ac fovendis unice constituta, vivere quidem possent," ('Arcana naturæ, etc.' tom. ii, p. 150.)

‡ These observations of Spallanzani have lately been considerably modified and corrected, by the researches of Mr. Newport upon the quantity or number of spermatozoa required to fecundate an ovum in the frog, &c. (See his paper in the 'London Phil. Trans.' for 1853, part ii.)

"Again, the elaborate experiments of Haighton,* long ago performed, show that in the rabbit conception generally does not take place till about fifty hours, or more than two days after insemination. He found that division of the fallopian tube earlier than this time prevented conception, and that, by waiting longer, the conception was not prevented by the mutilation. It thus appeared that the conjunction of the ova and semen in the rabbit generally did not take place till more than two days after insemination. In the rabbit, then, there was found in Haighton's experiments this long interval between insemination and conception, and in some cases it is possibly much longer. In the rabbit the interval between insemination and parturition is ordinarily thirty days. The observations of Tessier upon 161 rabbits, give five days as the extreme limit of the protraction of this term, a period of time which may be accounted for without any stretch of the space during which the semen may retain its fructifying power. And in this way it may have happened that the real period of gestation, that is, from conception to parturition, may not have been at all protracted in these cases. The cases also in which the period was less than thirty days may be explained by supposing the ova to have been further matured or even advanced into the uterine horns before impregnation took place, so that conception may have happened very soon after insemination. And in Tessier's observations it is remarkable that in none of the rabbits did labour anticipate the usual time more than two days, the period which Haighton's experiments seem to show to be the usual interval between insemination and conception in this animal. In the present state of our knowledge, however, these explanations cannot be absolutely established.

"Experiments of Cruickshank upon the rabbit and doe, experiments of Wharton Jones, Martin Barry, and others, might be adduced as throwing light on this point.

"For reasons which do not require to be stated, there is a great deficiency of evidence in regard to the analogous subject in the human female. But there is every reason to believe that the circumstances of conception in her closely resemble those in the higher animals. It has of late years been shown that in woman, at every menstrual period, an ovum is matured and expelled from its graafian vesicle, and that she is liable to conceive during its progress along the fallopian tube. How long after its maturation the ovum can retain its vitality and susceptibility to the seminal influence is not known, but probably the time is short. Nevertheless, cases might be easily adduced from the works of eminent obstetricians to prove that a single insemination at any period of the interval between two menstrual periods may result in the fertilization of the female. Of such cases, those only are important in our present point of view where conception has resulted from insemination shortly before the return of a period. They admit of explanation in three different ways.† Either the ovum has remained up till this time

* Philosophical Transactions, 1797.

† As a good example we may refer to a case of Dr. Montgomery's ('Signs, &c. of Pregnancy, p. 258.) The last menstruation was on the 18th October. Impregnation took place on the 10th November; parturition on the 17th August. The interval between insemination and parturition was thus 280 days: between last menstruation and parturition it was about three weeks more.

entire and susceptible of being influenced by the semen, a supposition which is very improbable as regards the ovum,* and is at variance with what we know of the history of the decidua or nidus prepared for the egg's further development. Or the excitement of connection may have hastened the maturation and rupture of a graafian vesicle, a view which is in itself improbable and inconsistent with what we know results from similar circumstances in the lower animals. But it may also happen that the seminal animalcules may remain in the passages till the ovum is prepared and discharged from its vesicle. An objection at once appears to this explanation, namely, that these spermatozoa would be removed by the menstruation contemporaneous with the discharge of the ovum. When menstruation does supervene on a single recent coitus, this will probably happen, unless the semen have permeated the fallopian tubes, and thus advanced beyond the scope of the menstrual flux. But the study of such cases, as recorded by authors, reveals this interesting fact, that under such circumstances menstruation often does not take place at all, or only very scantily; the uterine system, as it were, anticipating the conception, and preventing the failure which might result from a free discharge of blood. It is evident that such cases occurring in married women would be very liable to be considered cases of gestation protracted a month."

Making this distinction between the date of insemination and that of conception, the author considers that it may be possible eventually to harmonize the discordant views as to the term of human pregnancy, and to account for many so-called cases of prolonged gestation; but that there is not yet sufficient evidence to allow of this. In Dr. Duncan's opinion, many of these so-called cases of protracted gestation are contradicted by the size of the child. If gestation had been really prolonged (he argues) the child should be unusually large; and because in many cases the child has not been larger or even less than usual, it is presumed that the child could not have been in the uterus for a longer time than usual. This argument, however, is open to a fallacy, for, if necessary, we think it might be shown that a small child, *cæteris paribus*, was more likely to remain in the uterus than a large child; but to us the question does not seem of sufficient importance to render its examination necessary.

The conclusions of this interesting and important paper are:—

1. That the interval between conception and parturition (the real duration of pregnancy) has not been exactly ascertained in any case.
2. That the average interval between insemination and parturition (commonly called the duration of pregnancy) is 275 days.
3. That the average interval between the end of menstruation and parturition is 278 days.
4. That the intervals between insemination and parturition, and

* "The passage of the ovum from the ovary to the uterus occupies, M. Bischoff says, three days in the rabbit and four or five days in ruminants, and therefore, probably eight or ten days in the human female. M. Bischoff believes that the ovum escapes from the graafian follicle at the time when the menstrual discharge is about to cease, and he is of opinion, that in order to be fecundated, it must be acted on by the semen while it is in the fallopian tube." (Baly and Kirkes's Suppl. to the 2d vol. of 'Muller's Physiol.' p. 58.)

between menstruation and parturition, have no standard length, but vary within certain limits.

5. That while absolute proof of the prolongation of real pregnancy beyond its usual limits is still deficient, yet that there is evidence to establish the probability that it may be protracted beyond such limits to the extent of three or even four weeks.

1. *On the comparative value of Ergot of Rye and Galvanism in obstetric practice.* By R. BARNES, M.D., Lecturer on Midwifery at the Royal Free Hospital Medical School. ('Lancet,' 5th and 12th November, 1853.)
2. *On Galvanism as an obstetric agent.* By THOMAS RADFORD, M.D., Consulting Physician to the Manchester and Salford Lying-in Hospital. ('Lancet,' 26th November, 1853.)

1. Dr. Barnes' principal object in the paper under consideration is to show the complete superiority of galvanism over ergot in the management of labour characterised by defective uterine action; and in doing this he brings to light much important matter.

In the first place he sets himself to show the dangers arising out of the unmanageable contraction which is set up by the ergot—rupture of the uterus and of the perinæum, laceration of the os uteri, prolapsus of the uterine and bladder, dangerous depression of the mother, murder to the child, and so on. Of these dangers, more or less serious, the two last are the least understood, and they are also best elucidated by Dr. Barnes.

The fact that ergot always causes depression, and often serious depression, is not generally understood, and yet, as we take it, this is the all-important fact in accounting for its action upon the uterus. According to our own views in the matter, the uterus should contract under the influence of ergot, not in consequence of any *stimulation* exercised by the drug upon the uterine fibres, but in consequence of a directly contrary influence. Hence the depression referred to is an all-important and significant fact in accounting for its action. Upon this point Dr. Barnes quotes from Dr. Hardy—

"Dr. Hardy relates," he says ('Dublin Quarterly Journal,' 1845), "that in several cases where the circulation had undergone depression from the action of ergot, the effect continued for several days, notwithstanding that in some instances inflammation of the uterus followed delivery, and the uterine tumour not unfrequently remained much larger than natural, even where there was no inflammation." Again: "Drs. Hardy and M'Clintock have observed a marked diminution of the mother's pulse in from fifteen to twenty minutes after the administration of the ergot; and all concur in noticing the dangerous depression following the use of ergot when given in cases where the powers of the system have been reduced by hæmorrhage. In one such case ergot was almost immediately followed by most alarming symptoms, and depression requiring the most powerful stimulants. In several cases the depressed state of the circulation continued several days."

The injury done to the child offers a very tangible objection. While it continues, the contraction of the uterus necessarily suspends more or less the foetal circulation, by interfering with the due aeration of the foetal blood. This happens during a natural uterine pain, but the duration of this pain is such that, as a rule, no damage results to the child. It is different, however, if this pain is prolonged inordinately, as it is by ergot. Dr. Barnes puts the case very well:

"Drs. Hardy and M'Clintock observed that the pulsations of the foetal heart underwent a similar diminution in frequency to that witnessed in the mother, and that this was succeeded by irregularity and intermission, and that it became *inaudible*. Dr. Hardy, Dr. Beatty, and others, after careful observation directed to this point, assert that unless the child be born within a limited interval from the administration of the drug, it will be still-born. The excessive mortality of the children in ergotic labour is a fact well established, although disputed by some practitioners enthusiastic in the praises of ergot. The Prefect of the Seine had observed an almost regular annual increase in the number of still-born children, and he was informed that in a large number of these cases ergot of rye had been given during labour. He put the following question to the Academy of Medicine:—'What may be the influence of ergot of rye on the lives of infants, and on the maternal life?' The report made by a commission of the Academy, consisting of Orfila, Adelon, Villeneuve, Mérat, and Danyau, contained the following conclusion:—'Ergot of rye administered improperly causes death to the foetus and injury to the mother.' The immediate source of danger to the foetus is either the toxical property imparted to the blood, or the interruption to the circulation through the uterus and the placenta, occasioned by the long-continued contraction of the uterus. In this latter case the child may perish from asphyxia. These are the usual sources of danger; but there is a third. The long-continued and violent pressure to which the child is subjected during ergotic labour may compress the brain beyond the limit of endurance, or it may impede the circulation through the umbilical cord. The toxical agency of the ergot upon the foetal heart is exemplified in the observations already referred to of Dr. Hardy. The influence of contraction of the womb in arresting the circulation through the placenta, and consequently the foetal circulation, has been demonstrated to me by actual observation. The case is so interesting, and the opportunity of making a similar physiological experiment must be so rare, that I will cite it in detail.

"CASE 2.—A woman, with an extremely contracted pelvis, and who ten years before had been delivered by craniotomy by Dr. Waller, consulted me about her condition. She was again pregnant. I became satisfied of the propriety of inducing premature labour; and the agent I determined upon employing was galvanism. Having waited until it was estimated that seven months of gestation had passed, the operation was commenced. I shall have to relate presently the course of the labour under the use of galvanism, and may therefore pass at once to the particular point it is my present wish to illustrate. When labour had set in, and the os uteri was partially expanded, the cord came down into the vagina. The pains being of a languid, uncertain character, the galvanic stimulus was kept up. The pulsations of the cord were strong, and 80

in the minute. Galvanism was applied during the pains; the contractions were sensibly increased in force, and during the contractions the pulsations in the cord became intermitting, and occasionally stopped. As the pain went off, and as the galvanism was discontinued, the pulsations resumed their former strength and regularity. I then tried the effect of galvanism in the absence of a pain. Contractions were induced, and the intermittence of the pulse followed.

"I then observed the effect of a pain uninfluenced by galvanism. The intermittence of the pulse was the same. I repeated these observations several times, and always with the same result. Towards the termination of the labour a strong expulsive pain came on, during which the head, which was very small, was driven into the vagina, without, however, causing any pressure upon the cord. During the strong pain the pulsation in the cord stopped entirely, but returned when the pain went off.

"But foetal circulation is arrested during the physiological contraction of the womb for a short time only, and is completely restored during intervals sufficiently long to ensure the safety of the child. In ergotic contraction the interruption is total, unremitting, and protracted. Shall we wonder if the child occasionally perishes from asphyxia?

"Dr. Ramsbotham, whose experience in the use of ergot in inducing premature labour is probably greater than that of any other practitioner, says—'After a great number of trials, I observed that although the mothers recovered as well as if through an ordinary labour, their systems not being in any sensible degree injuriously affected by the drug, yet that the proportion of children born still was greater than when the membranes were punctured. This I attributed to the baneful influence of the medicine upon the foetus.' Dr. Ramsbotham modified his practice in consequence. He further says that 'Wright's experiments prove decisively that the medicine has a most prejudicial influence upon the young *in utero*, even to their destruction.'

"If the child survives the perils of ergotic labour, is it free from subsequent danger?

"Dr. Ramsbotham says—'It has happened to me in four different instances to witness the death of the foetus, a few hours after birth, by convulsions, after the induction of premature labour by ergot.'

In the second place, Dr. Barnes pleads in favour of galvanism as a substitute for ergot, his chief reason being that the contraction which it provokes is perfectly manageable. In illustration of the efficacy of galvanism for this purpose, he refers to the evidence already published, particularly that by Dr. Radford and Mr. Haighton; and in addition to this he adduces some evidence derived from his own experience or from that of his friends.

Of the use of galvanism in inducing premature labour he mentions two cases:

"CASE 3.—I have already referred to this case for the purpose of illustrating the effect of contraction of the uterus upon the foetal circulation. The result, although perfectly satisfactory, was by no means so speedily accomplished as in the case of Hörniger and Jacobi. I had previously endeavoured to bring on labour by puncturing the membranes, and inserting a sponge-plug in the cervix uteri. This proceeding was

followed by no symptom of labour. On the 23d of January I applied the galvanic battery for half an hour, placing one pole on either side of the uterus. Immediately after commencing the shocks the bladder was irresistibly emptied, to the evident annoyance of the patient. The womb was felt to become hard, and the patient herself was sensible of contractions and increased movements of the fœtus. The contractions did not continue on the cessation of the galvanism, and I therefore repeated the application on the 24th and 26th, for about an hour each time. On the 26th a 'show' took place. On the evening of the 27th slight pains were felt; the cord was presenting, a small loop coming through the os uteri, which was now dilated to the size of a shilling, but feeling rigid. She had had rather copious flooding in the day-time, but it had stopped. The head was felt lying on the pubis in front of the os uteri, the cord coming down in the free space behind it. On the morning of the 28th, the galvanism having been applied at intervals all night, the pains had increased. I have already mentioned how the galvanism increased or originated contraction. At nine a.m. the child was born. It was apparently not more than six months old. The patient had certainly reckoned falsely. The child's heart was pulsating; the chest made three or four convulsive heaves, at which the mouth opened, but no air seemed to enter; the lungs refused to expand; the walls of the chest were drawn in towards the spine. I endeavoured to excite respiration by the galvanic apparatus, but although I could at will cause a respiratory *effort*, the child was evidently too immature to live. The womb contracted favorably, and the placenta being withdrawn was found healthy. The patient recovered without a bad symptom.

"The excellent effect of galvanism in this case led me to recommend the use of the same agent to my friend, Mr. Mansford, who has favoured me with the following account:

"CASE 4.—'The lady, whose case led me to attempt the induction of premature labour, was in the forty-first year of her age, and the thirtieth week of her fifth pregnancy. On the 8th of November, 1852, having ruptured the membranes, I introduced one wire of the apparatus within the os uteri, and placed the other in contact with the spine. From the one introduced into the uterus I had removed the brass handle, and twisted the wire upon itself so as to form a loop sufficiently curved to ensure its remaining steadily in its proper place. I also carefully enveloped a considerable portion of this wire with lint, as well to protect the vagina from the twisted portion and extremity as to prevent the galvanic current from being diverted from the uterus. I then increased its power until it produced "the most severe cutting pains in the loins," "great bearing down," and "a dreadful commotion in the womb." These were my patient's own expressions. This operation was repeated on the 9th and 10th, each morning for half an hour; the effect, however, had not been as yet altogether satisfactory, as I had not been able to maintain a continuous action; but on the fourth morning—viz., the 11th—I remedied this defect, and kept up a continuous current for three quarters of a hour, when my patient begged me to desist, which I did, and determined to wait a few days to see if this might accomplish the desired effect. Happily on the 14th, without any further interference, labour commenced, and terminated within four hours in the

birth of a living child, and not a single untoward symptom occurred, spontaneously. It was altogether a most satisfactory case.'"

Of the use of galvanism in inertia during the first and second stages of labour, a case by Dr. Mackenzie is referred to :

"CASE 5.—'I was sent for one morning to a young woman who had been admitted in labour at the Paddington Infirmary, and on examination I found that the head presented. Although she had been several hours in labour, the os uteri was but little dilated. I saw her in the course of the same afternoon, but still found very little dilatation. At ten p.m. but little progress had been made. I now determined to try the effect of galvanism, and applied one pole of a single current machine to the spine, and the other, by means of Radford's director, to the neck of the uterus. The current was from time to time intermitted, and uterine action of a vigorous character was excited. In about an hour a fine living child was born. So vigorous were the expulsive efforts during the passage of the head through the os externum, that I was obliged to take particular pains to prevent rupture of the perinæum. The impression left on my mind by this case was, that galvanism should not be employed except very cautiously in primiparæ, or in any other instance in which the perinæum is rigid or imperfectly developed.'"

In illustration of the use of galvanism in the third stage of labour, and in hæmorrhage, another case by Dr. Mackenzie is referred to :

"CASE 6.—'The patient had been upwards of forty-eight hours in labour, under the care of Dr. Keogh, who had called in Mr. Clark, by whom I was sent for. When I saw the patient uterine action had entirely ceased, and I found, on examination, that the head was impacted in the pelvis, the face presenting with the chin to the left cotyloid cavity. As the patient was exhausted, an opiate had been given, and as she was disposed to sleep, we agreed to meet again in some hours, and if uterine action did not return, to deliver by the forceps. At the appointed time no return of uterine action had taken place. I applied the forceps; the operation was accomplished with extreme difficulty, and the woman was delivered of a fine, large, living child. I left the patient shortly afterwards, but the next day, on meeting Dr. Keogh and Mr. Clark, I learned that great apprehension had been felt throughout the night as to the occurrence of hæmorrhage, inasmuch as the uterus had remained flaccid and uncontracted, and at the time of my visit it reached above the umbilicus, and was very soft and flabby. I proposed galvanism, and applied one pole to the spine and the other to the neck of the uterus, occasionally intermitting the current. This was done for half an hour, and evident uterine action was excited, the uterus becoming harder and smaller, and on removing the poles two large coagula were expelled. The next day the uterus was more contracted and smaller, and no hæmorrhage had occurred. Galvanism was again used for half an hour. The uterus certainly contracted under its influence. The following day no hæmorrhage had occurred, and the condition of the uterus was such as not to require any further recourse to the agent. The woman from this time recovered in a most favorable manner.'"

Dr. Barnes, also, relates a case in which he used galvanism with success for the purpose of expelling hydatids.

"CASE 7.—Ann W——, æt. 42, had had eight children and three abortions. She applied to Mr. Forbes, on the 17th of June last, having anasarca of the legs. Two months before she suffered a burning pain in the region of the womb. She had menstruated up to Christmas last. Since that date there had been a little hæmorrhagic discharge at intervals. For the last month there has been a continual discharge of coloured fluid. Her health is much impaired, and her strength lowered. On the 18th, while in bed, she felt a vaginal discharge, and on getting up passed a large quantity of blood. The pulse was weak, thready, 108; face blanched; headache intense. No pain preceded the hæmorrhage. There was a tumour in the seat of the pregnant womb, extending more to the right side, and reaching to the umbilicus; it was firm and elastic, tender on pressure, which did not bring on labour-pains. The os uteri was the size of a shilling, and rigid. No placental murmur or sounds of foetal heart were heard. The breasts were quite flaccid. Os slightly expanded towards the afternoon. A dead foetus, or some diseased condition of the ovum, was suspected. In consultation, Dr. Barnes suggested galvanism to cause contraction; this had the desired effect, and Mr. Forbes was enabled to bring down a bunch of hydatids. The vagina was then plugged, and the abdomen bandaged. The disposition to contraction thus given, more hydatids were afterwards passed. Tincture of ergot of rye was then given in small doses. Early on the morning of the 19th, the patient passed a large mass of hydatids, which was expelled suddenly with a pain like that of labour. She was quite exhausted with loss of blood and previous disease; symptoms of inflammation appeared, and she sank the same night. The post-mortem examination revealed a large fibrous tumour in the walls of the uterus, and an advanced stage of granular degeneration of the kidney."

The paper ends with a description of the mode in which galvanism is to be applied, and a summary of its advantages in comparison with ergot of rye:

"The ordinary electro-magnetic apparatus in use for medical purposes is, I believe, the best form that can be employed. The principle of this apparatus consists in the induction of magnetic currents by a current of electricity, and the production of a rapid succession of feeble shocks by continual interruptions to the current. I have observed that the uterine contractions are always provoked at the break and renewal of the circuit. Repeated shocks act as a far more effectual and certain stimulus to uterine contractility than a continued current. It is probably through inattention to this fact that some practitioners have failed in effecting contraction of the uterus by means of galvanism. As to the mode of applying the poles, I do not think it necessary to apply one over the spine, and the other to the neck of the uterus, as is usually done. I have found the application of the discs, covered with thin flannel moistened in water, one on either side of the abdomen over the uterus, much more convenient and quite as effectual. The practice of applying one pole over the spine and the other to the neck of the uterus further seems to me to be based upon an erroneous view of the mode in which galvanism acts upon muscular fibre. When the poles are thus applied, one to the spine and the other to the cervix uteri, it is doubtful whether

the ensuing contraction of the uterus is due to primary excitation of the spinal marrow."

* * * * *

"Among the advantages of galvanism more especially worthy of attention are—

"1st. The simplicity of the operation.

"2d. The extensive range of cases in which it may be successfully employed, rendering the electro-magnetic apparatus a desirable addition to the armamentarium of the obstetric practitioner.

"3d. The perfectly manageable character of the agent. Its action may be broken off and removed at pleasure. The moment we think the uterus is acting too powerfully under its use, we may instantly withdraw the exciting agency, and leave the uterus to the ordinary physiological stimuli, which seldom impel the organ to undue activity. It moreover admits of easy regulation; both the strength and duration of this agent are completely under our command. We have it in our power to imitate in a remarkable manner the natural pains, both as to intensity and intermission. Ergot has neither measure nor certainty.

"4th. Its peculiar appropriateness and efficacy in cases of extreme exhaustion of the system, where deglutition is difficult or impossible, or where the stomach rejects everything; where any other mechanical application to the uterus is dangerous or inconvenient, and especially where the introduction of the hand into the uterus would be likely to be attended by injury or even a fatal result. Indeed, it may be truly said that in cases of extreme exhaustion galvanism is the last resource left to us. The galvanic stimulus can be applied when everything besides is out of the question. The uterine muscular fibre will respond to this stimulus when the nervous system is utterly prostrate, when the heart has ceased to beat, when the patient is moribund or even dead.

"5th. Galvanism is less exhausting to the system than ergot or most other means of exciting contraction. It acts directly upon the uterine muscular fibre, and scarcely taxes at all the general powers of the system.

"6th. It does not necessarily preclude or supersede the use of other remedies tending to fulfil the same indication."

2. Dr. Radford's communication owes its origin to Dr. Barnes'. Its prime object is to vindicate the writer's claim to having been the first to recommend and employ galvanism as an obstetric agent in this country, as well as to state the kind of cases in which this agent has been employed by him. These cases are—

1st. In cases of tedious labour arising from uterine inertia.

2d. In cases of accidental hæmorrhage, either before or after the rupture of the membranes, and especially when exhaustion from loss of blood exists.

3d. In cases of "placenta prævia," in which the practice of detaching the placenta is adopted, and the vital powers are greatly depressed.

4th. In cases of internal flooding before or during labour.

5th. In cases of post-partum floodings.

6th. In cases of hour-glass or irregular contraction of the uterus.

7th. To originate, *de novo*, uterine action, or in cases in which it is desired to induce premature labour.

8th. In cases of abortion, when the indications show the necessity or justify the expulsion of the ovum.

9th. In cases of asphyxia in infants.

On the source of Hæmorrhage in partial separation of the Placenta.
By F. W. MACKENZIE, M.D., Fellow of University College.

We have already (Vol. XVII., p. 315) had occasion to refer to the researches of Dr. Mackenzie on this subject. On that occasion, these researches did not extend beyond the lower animals, and there was some doubt whether the conclusions arising out of them were applicable to the human female; now, however, they include the important link in the evidence which was then wanting, and their high significance in theoretical and practical midwifery may be said to be demonstrated. In our opinion it is difficult to over-estimate their practical importance, and we are much mistaken if the rules of treatment to which they lead will not, when properly appreciated and fully carried out, go far to prevent and remedy the dangers at present arising from the hæmorrhage connected with partial separation of the placenta.

“There are few subjects in obstetric medicine of greater scientific interest, and none of greater practical importance, than that of the anatomical source of hæmorrhage in cases of partial separation of the placenta. Upon its right understanding may be said to depend not only the whole question of the extraction of the placenta, in cases of placenta prævia, but also the general treatment of uterine hæmorrhage in all its several forms; and yet there is probably no subject upon which so much diversity of opinion prevails, or in regard to which mere speculative notions have been more freely allowed to take the place of original observation.

“On referring to the published writings of various obstetric authorities, it will be found that three different opinions prevail at the present day respecting the anatomical source of hæmorrhage in cases of partial separation of the placenta. The first affirms that it is principally or wholly uterine; the second that it is principally or wholly placental; the third, that it is both uterine and placental—the blood escaping partly from the exposed uterine and partly from the detached placental surfaces.

“Further, it will be found that uterine hæmorrhage, whether occurring in connection with partial or entire separation of the placenta, is generally considered to be principally venous. ‘Uterine hæmorrhage,’ says Dr. Simpson, ‘after the separation of the placenta, in any of the stages of labour, is *not arterial* in its character. The utero-placental arteries are numerous, but so long and slender as to become readily closed; first, by the tonicity of their coats; secondly, by contraction of the uterine fibres upon the course of these vessels themselves, as they pass through and amid the uterine structure; and, thirdly and principally, by the changes in their tissues produced by the mechanical rupture of their coats—*torn arteries* being little, if at all, liable to bleed, and the placenta being separated by a true process of *avulsion*.’ ‘When the pla-

centa is only separated,' says Dr. Radford, 'the blood which is lost is chiefly venous.' 'When the placenta is separated partially from the uterus,' Dr. Murphy observes, 'any hæmorrhage must arise chiefly from the broken veins, and not from one but from both of their divided extremities.' 'It is,' says Dr. Robert Lee, 'from the great semilunar valvular-like venous openings in the lining membrane of the uterus, and of the arteries which are laid open by the separation of the placenta, that the blood alone flows in uterine hæmorrhage.' I have made these quotations for the purpose of showing that the question at issue is one of a very complex character. It is one which has reference not only to the organ from whence the blood escapes, but to the particular system of vessels from which it is poured out also.

"On reflecting upon these circumstances, I was led to believe that some light might be thrown upon the question by ascertaining experimentally the source of hæmorrhage in an animal whose placenta, like that of the human female, was both decidual and foetal. A pregnant bitch was accordingly obtained, which had nearly completed the full period of gestation, and it having been placed under the influence of chloroform, the uterus was exposed and opened, and the following observations were made.

"I. It was observed on separating the placenta that blood flowed freely and continuously from the denuded uterine surface, increasing with the detachment, whilst none escaped from the detached portion of the placenta.

"II. That the blood which escaped from the uterus was distinctly arterial, being of a bright arterial character.

"III. On rupturing a placenta whilst still partially adherent to the uterus, it was found that a small quantity of dark venous blood escaped from the part torn, but only to a very trivial extent.

"These observations were made with different placentæ, and uniformly with the same results.

"Thus it would appear, in the canine species, that the source of hæmorrhage in cases in which the placenta is partially detached, is exclusively the denuded uterine surface, so long as the placenta is entire; that the hæmorrhage which takes place is of an arterial character; and that although a certain amount of blood may escape from the placenta, if lacerated or torn whilst still partially adherent, yet that this is very trivial in quantity and of a dark venous character.

"Considering, however, the different distribution of the veins in the maternal portion of the placenta in the human and canine species, I am aware that this experiment cannot be regarded as decisive of the source of hæmorrhage under similar circumstances in the former. We know, for instance, that in the human placenta the utero-placental arteries open into large cells or dilated capillaries in the maternal portion of the organ, between which a free inter-communication exists; whereas in the bitch, the venous vessels of the maternal part of the placenta do not constitute a cellular or cavernous structure, but in form and distribution resemble ordinary veins. These circumstances were particularly pointed out by Dr. Sharpey, to whom I communicated the results of the experiment I have related, and, in the course of a subsequent conversation, he observed that, in his opinion, the best mode of ascertaining the

source of hæmorrhage in partial separations of the placenta in the human female, would be to obtain an uterus to which the placenta was still partially adherent, to inject the hypogastric arteries with defibrinated blood, and to observe whether it escaped from the uterus, the placenta, or from both.

“In the early part of April, 1853, I had an opportunity of carrying out this suggestion. A poor woman, under the care of Messrs. Clark, Norway, and myself, died of hæmorrhage during the progress of a labour, rendered protracted by malposition and impaction of the foetal head. A *post-mortem* examination of the body was made on the following day, and as it was found that the placenta was still partially adherent, although much of it had been detached, it appeared to me that it would serve the purpose in view. Accordingly the uterus and placenta were removed to University College, where the following observations were made, under the immediate superintendence of Dr. Sharpey.

“The uterus, which had been cut off somewhere above its orifice, was first carefully inverted, and several loose unadherent coagula were removed from its interior. It had the appearance of being very exsanguine, and on the surface from which the placenta had been detached, the ramifications of the utero-placental arteries could be plainly seen, but free from any plugging or coagula; about a fifth of the placenta was still adherent. In the next place, the vessels along the cut surface of the uterus were secured by ligatures placed along the line of its division, and the hypogastric and ovarian veins were also secured by ligature. An injecting pipe was now fixed in one of the hypogastric arteries, and some defibrinated blood was steadily injected. The results of the operation were as follows. The blood escaped freely from the orifices of the utero-placental arteries, which had been torn across by the separation of the placenta; none escaped from the torn utero-placental veins, nor did any pass away from the placenta. The injection was continued for some time, but with no variation in the results. It was now thought advisable to ascertain the force with which the blood was injected; and, tested by the hæmadynamometer, it was found not to exceed that of the heart, acting under ordinary circumstances. In the next place, the opposite hypogastric artery was injected; and in this case it was found, as in the other, that blood escaped freely from the orifices of the torn utero-placental arteries, that none passed out of the torn utero-placental veins; whilst in this case a small quantity escaped from the surface of the placenta, contiguous to that which was still adherent. The injection was repeated several times with the same results; the great bulk of the injected blood escaped readily from the orifices of the torn utero-placental arteries, a small quantity only came from the placenta, whilst none could be observed to pass out from the torn utero-placental veins, whose orifices were plainly visible and carefully watched. Nor, it should be added, were the vessels plugged with coagula.

“Looking, then, to the results of this experiment, it would appear that the source of hæmorrhage in partial but extensive separations of the placenta is principally uterine, and only slightly placental, and, further, that it is arterial rather than venous. It would, however, be too much to assume that the experiments are conclusive as to the source of hæmorrhage in all cases of placental separation. It must be remem-

bered that in this case the placenta was very greatly detached, and as, consequently, little blood only could have entered it, much could not be expected to have escaped from it; whilst, again, the tonicity of the arterial system could not have been great during life, as evidenced by the little resistance offered by the utero-placental arteries to the escape of the blood injected. Admitting, however, the full force of these and other considerations, it yet appears to me that the results of this experiment, coupled with those of the one previously related, and taken in connection with various clinical facts, afforded strong grounds for the belief that the *principal* source of hæmorrhage in cases of partial separation of the placenta is uterine rather than placental, and arterial rather than venous.

“What, then, it may be asked, are the grounds upon which it is affirmed that these hæmorrhages are respectively either venous or placental? The best reply to this question is probably that given by Dr. Simpson, in the passage I have quoted from his writings. ‘Uterine hæmorrhage,’ he observes, ‘after separation of the placenta in any of the stages of labour, is *not arterial* in its character, because the utero-placental arteries are so long and slender as to become readily closed. 1. By the tonicity of their coats. 2. By contraction of the uterine fibres upon them. 3. Principally by the changes in their tissues produced by the mechanical rupture of their coats.’ These, probably, constitute the entire grounds upon which the opinion in question is maintainable, and I will therefore proceed to consider respectively their nature and validity.

“I. The assertion ‘*that uterine hæmorrhage after the separation of the placenta in any of the stages of labour is not arterial in its character,*’ is one which, so far as I am aware, is not only unsupported by any evidence, but directly at variance with many trustworthy observations. On the 23d of September, 1853, I had an opportunity of investigating this point, and of satisfying myself that the hæmorrhage which took place from the uterus between the birth of the child and the expulsion of the placenta was distinctly of an arterial character. On the 10th of October, 1853, whilst in attendance upon a case of labour, my attention was directed to a rather profuse flow of blood which followed the birth of the child; and I observed, as it passed over the vulva, that whilst the greater part was of a bright arterial colour, a small portion was of a dark venous hue; the striking difference in the colour of the two portions left no doubt in my mind that they were respectively arterial and venous. The same thing was observed in the experiment I have related, in which the placenta was detached from the uterus of the bitch. The blood which flowed freely from the denuded uretine surface was of a bright florid colour, and such as to convince both Mr. Marshall and myself that it was arterial. I further find that the observations I have myself made, as to the character of the blood lost in uterine hæmorrhages, are similar to those which have been made by other medical men; and therefore, in the absence of any evidence to the contrary, we may, I think, conclude that uterine hæmorrhage after the separation of the placenta is rather of an *arterial* than a *venous* character.

“II. The second point affirmed is, ‘*that arterial hæmorrhage from the uterus is presented by the tonicity of the utero-placental arteries.*’ It is far

from my intention to assert that, in a state of health and tranquillity of the circulation, this is not the case; but, under other circumstances, it may be doubted whether the principle in question can be relied upon for the attainment of this object. The tonicity of the arteries, like every other vital property, is liable to be modified or affected by a variety of circumstances; and, regarded as a modification of the principle of contractility, may be supposed to be influenced by the same general causes; to be increased by those which tend to augment the strength and vigour of the body, diminished by those which tend to enervate or exhaust it, and disturbed by those which tend to disturb the nervous and vascular systems. Now, if we consider the circumstances under which uterine hæmorrhages are most liable to occur, we shall find that they are respectively those which tend to enervate or exhaust the constitutional powers, on the one hand, or morbidly excite or disturb the vascular system on the other. One of the most alarming cases of *post partum* hæmorrhage which I have ever witnessed occurred in the wife of an eminent obstetric physician, whose nervous system and energies had been prostrated by the unexpected death of her mother about three weeks before the accession of labour. The poor woman, whose uterus was the subject of the experiment I have related, died of internal hæmorrhage consequent upon partial separation of the placenta, when her strength had been exhausted by long parturient efforts; and numerous cases are related of fatal hæmorrhages occurring in women who had been previously anæmic and weakly. On the other hand, every practitioner must have met with profuse uterine hæmorrhage in connection with morbid excitement of the heart and circulation; and hereafter it will be shown that, of the causes of such excitement, some have a sympathetic, and others a direct mode of operation. Further, I may appeal to the condition of the utero-placental arteries in the case of the patient who died of uterine hæmorrhage, as showing that no plugging or particular contraction of them had taken place during life. Here, indeed, was a physical demonstration of the condition of these vessels, as they must have existed during life, after fatal hæmorrhage consequent upon partial separation of the placenta, the placenta having been separated during life; and if it can be clearly shown, as it was, that they had neither been so contracted or plugged during life as to prevent the escape of blood from them when injected with no more force than that of the heart's action after death, then it must follow that neither could they have prevented the escape of blood from them during life, when injected under the ordinary force of the circulation. On these grounds, then, we may venture to doubt the correctness of the dogma, that the tonicity of the utero-placental arteries is, under all circumstances, capable of preventing the escape of blood from their orifices when torn across by the separation of the placenta.

“III. In the next place, it is affirmed, *‘that hæmorrhage from the utero-placental arteries is prevented by contraction of the uterine fibres upon the course of these vessels, as they pass through and amid the uterine structure’*—a doctrine which is manifestly at variance with the well-known fact, that there is often no direct relation between the degree of uterine contraction and the degree or tendency to uterine hæmorrhage. ‘The observing practitioner,’ says Dr. Gooch, ‘must have been frequently struck by the little proportion that existed between the want of contrac-

tion and the degree of hæmorrhage; having found the uterus bulky without any hæmorrhage, and a profuse hæmorrhage without greater bulk of uterus. Nay, further, I have witnessed a profuse hæmorrhage, though the uterus had contracted in the degree which commonly indicates security; and I have ventured to do what is seldom justifiable, separate the placenta before the uterus had contracted, without more hæmorrhage than after a common labour.' The correctness of these remarks, and their pertinency to the question under consideration, must, I think, be generally admitted; but, besides these, two other series of facts may be adduced, in opposition to the doctrine above propounded. First, that in several instances, the placenta has been spontaneously or artificially separated from the uterus before the birth of the child, and, consequently, under circumstances in which contraction of the uterus could not take place without any hæmorrhage supervening; and, secondly, that when it has been attached to the os and cervix uteri, its separation has been effected in many cases without any particular hæmorrhage resulting, although it is affirmed by some anatomists that there are few or no contracting fibres in the structure of the os and cervix uteri.

"IV. The last proposition affirmed,—*that hæmorrhage from the utero-placental arteries is prevented by the changes in their tissues produced by the mechanical rupture of their coats, torn arteries being little or not at all liable to bleed, and the placenta being separated by a true process of avulsion*,'—is completely invalidated by the results of the experiment performed upon the pregnant bitch, which I have described in the former part of this paper; for, on detaching the placenta from the uterus, and thereby lacerating or tearing through the utero-placental arteries, arterial hæmorrhage was observed to follow. That is to say, having separated the placenta by a true process of *avulsion*, it was demonstrated that such proceeding was not productive of those changes in the torn coats of the utero-placental arteries which are assumed to follow such operation, and by which, it is alleged, arterial hæmorrhage is prevented. And, to appreciate the full force and importance of this fact to the present inquiry, it is necessary to bear in mind that the placenta of the canine, as of the human species, possesses a maternal as well as a foetal portion; that the utero-placental arteries in both pass from the uterus into the maternal portion of the organ, as do the utero-placental veins from the latter to the uterus; and that the chief difference in the anatomical structure of the two organs consists in the different distribution of the veins in their maternal portions. Accordingly, it must follow that a separation of the placenta must equally give rise to a laceration of the utero-placental arteries in both species, and if it is clearly shown that hæmorrhage from these arteries is not thereby prevented in the one, it must follow that it cannot thereby be prevented in the other.

"I have thus critically examined the several grounds upon which it is alleged that hæmorrhage does not occur from the torn utero-placental arteries in cases of partial separation of the placenta; and, having shown the insufficiency of the data upon which this doctrine has been assumed, I proceed to observe that if blood does actually escape from these vessels, it must follow that proportionately little will escape from either the uterine veins or the placenta, because, according to the well-known

laws of hydraulics, fluids circulating in closed vessels will only continue in their regular course when due pressure is maintained upon them. Now, under the circumstances stated, this condition is not fulfilled; and, accordingly, the greater part of the blood entering the utero-placental arteries will escape from their open orifices rather than be continued onwards into either the uterine veins or placenta. In this respect, it must be borne in mind that the character of the utero-placental circulation must materially differ before and after separation of the placenta. In the former case, the pressure upon the circulating blood is equalised throughout; whereas, in the latter, it is unequally distributed, and accordingly there will be a tendency to hæmorrhage where this pressure is removed, or wherever openings exist in the utero-placental arteries.

“The correctness of this view is further supported by a variety of circumstances, which go far to prove that the principal source of hæmorrhage in these cases is neither the uterine veins nor the placenta. As opposed to its placental origin, I may mention: First, the character of the blood lost, which, as I have stated, is principally arterial rather than venous. Secondly, the rapidity with which the blood escapes, and its fluidity in many cases of puerperal hæmorrhage, would tend to show that it was rather poured out directly from the utero-placental arteries, than indirectly from the placenta. Thirdly, the peculiar cellular, cavernous, or reticulate structure of the maternal portion of the placenta, may be referred to as being calculated to prevent placental hæmorrhage, by producing stagnation and coagulation of the blood in this part of the organ, when separated from its vascular connection with the uterus. Fourthly, the occurrence of profuse hæmorrhage after the entire separation of the placenta, both before and after the birth of the child, may be referred to as showing that it has no necessary dependence upon this organ. Fifthly, the small amount of blood which escaped from the placenta when the utero-placental arteries were injected in the experiment I have related, affords strong evidence against the placental origin of these hæmorrhages. Whilst, sixthly, the escape of blood from the orifices of the torn utero-placental arteries, by lessening the quantity of blood which would otherwise enter the placenta, affords an additional argument against their placental origin.

“As opposed to the venous origin of the hæmorrhage, I may adduce the following facts: First, that the blood lost is for the most part not venous. Secondly, the absence of hæmorrhage in many cases in which those conditions exist which are most favorable to the occurrence of venous hæmorrhage, namely, relaxed and distended states of the uterus. Thirdly, the absence of hæmorrhage in many cases in which the placenta has been attached and separated from the os and cervix uteri; where the contractile mechanism of the uterus does not exist, by which it is alleged venous hæmorrhage is prevented. Fourthly, the occurrence of profuse hæmorrhage when the uterus is contracted, and when consequently the uterine veins must be firmly compressed. Fifthly, the escape of blood from the orifices of the torn utero-placental arteries; which would equally tend to prevent venous as well as placental hæmorrhage. Sixthly, the fact that no blood was observed to flow from the uterine veins when the utero-placental arteries were injected in the

experiment I have related. Seventhly, the normal course of the uterine circulation being from the uterine veins to the vena cava, it must follow that venous hæmorrhage can only occur as the result of a retrograde, and consequently abnormal, movement of the blood.

“Upon the whole, then, two things would appear to be certain: first, that, no *necessary* relation exists between the degree of hæmorrhage and the degree of separation of the placenta; or, secondly, between the degree of hæmorrhage and the degree of contraction of the uterus; uterine hæmorrhage having been variously moderate or excessive under similar degrees of separation of the placenta, and similarly moderate or excessive under the opposite conditions of relaxation and contraction of the uterus. Can it then be doubted that the absence of, or disposition to uterine hæmorrhage must depend, in many cases, upon other causes than the anatomical connection of the placenta with the uterus on the one hand, or the contractile mechanism of the uterus on the other; or further, that these are to be sought for in the occurrence of arterial hæmorrhage, and the various conditions of the utero-placental arteries, as modified by the general condition of the arterial system? Bearing in mind this view of the case, we can understand how it may happen that, the tonicity of the arterial system being great, uterine hæmorrhage may be prevented when the uterus is most relaxed and when consequently the conditions most favorable to venous hæmorrhage exist; that under the influence of morbid excitation of the heart and arteries, it may be profuse when the uterus is contracted, and when, consequently, venous hæmorrhage would be most effectually prevented; and that its degree may vary in different cases with the same amount of separation of the placenta. Let me, however, be distinctly understood as speaking of *pathological*, rather than of *physiological* puerperal hæmorrhage; and of its *principal*, rather than of its *exclusive* source; because on the one hand it can scarcely be supposed, that the placenta can be separated from the uterus, under the most favorable circumstances in child-birth, without some hæmorrhage resulting, which therefore cannot be regarded as pathological; nor, on the other can it be supposed that such hæmorrhage should be derived exclusively from the torn utero-placental arteries. It has indeed been experimentally shown that some blood does actually escape from the detached portion of the placenta when the hypogastric arteries are injected, and the quantity so escaping will doubtless vary in different cases; and I have referred to an observation in which venous blood was discharged mixed with arterial, in a case in which hæmorrhage preceded the expulsion of the placenta. It is therefore highly probable, that in all cases the source of hæmorrhage is of a mixed character. But, looking to its source in those which are so considerable as to endanger the safety of the patient, it appears to me that the facts adduced are sufficient to justify the conclusion that it is principally arterial; and that, although blood may simultaneously escape from the utero-placental veins and placenta, the quantity lost by these channels considerably falls short of that which escapes from the torn utero-placental arteries.

“In conclusion, we may, I think, deduce from a consideration of these facts some rules of practical importance in the treatment of puerperal hæmorrhages, whether occurring in connection with partial or complete

separation of the placenta. In particular, we may learn the importance of treating them upon broader principles than those derived from a consideration of the condition of the uterus or the degree of separation of the placenta; and the necessity of investigating carefully the physiological and pathological states of the nervous and vascular systems, both before and during labour, with a view to the adoption of measures of a preventive as well as curative character. It is not my intention to enter at length upon this subject; but a brief reference to the principles upon which the prevention of puerperal hæmorrhage should be attempted, will not be inconsistent with the object of this paper.

“Apart from the anatomical condition of the uterus and placenta, it will be found in practice that hæmorrhage during labour is liable to be excessive, in connection with two opposite states of the vascular system. In the one, there is morbid excitement of the heart and arteries, directly or sympathetically induced; in the other, there is a state of extreme depression of the circulation; dependent either upon atony of the blood-vessels, or an impoverished condition of the blood. As both these conditions may exist and be recognised before the accession of labour, I will briefly advert to the curative indications they suggest.

“Hæmorrhage occurring during labour, in connection with inordinate excitement of the circulation, has been well illustrated by Dr. Gooch, as well as the treatment it requires, in his paper on a peculiar form of hæmorrhage from the uterus. The patient before the accession of labour was flushed, and had a very full quick pulse. Abstinence from meat, wine, and warm drinks, a cool room, and a saline purgative, diminished but did not remove this state of the circulation, which continued in a considerable degree when the child was born. It was expelled very gradually, and after the removal of the placenta the uterus felt contracted in the ordinary degree. Nevertheless, about twenty minutes afterwards, there came on one of the most frightful hæmorrhages which, Dr. Gooch observes, he had ever witnessed. Twelve months afterwards he attended the same patient in a subsequent labour, and was struck on observing the same state of circulation which had preceded the first. The labour proceeded naturally, but was again followed by profuse and alarming hæmorrhage. Reflecting upon these facts, Dr. Gooch was led to believe that the hæmorrhage depended not upon want of contraction of the uterus, but on want of tranquillity of the circulation; and he concluded if she again became pregnant, that a mode of treatment which would cause her to fall in labour with a cool skin, and quiet pulse, would be the best means of preventing a recurrence of the accident. In due time he had an opportunity of testing this practice; and although in the first instance he was unsuccessful, yet in another, by means of an abstemious diet, saline aperients, and the moderate abstraction of blood from the arm before delivery, the labour was completed without the smallest degree of flooding or faintness. The principle upon which this variety of uterine hæmorrhage should be treated, is sufficiently indicated in these details.

“In a second series of cases it has appeared to me that hæmorrhage during labour has been immediately dependent upon a disordered state of the circulation, excited by functional derangement of the liver and digestive organs. Such patients suffer for some time before labour,

from constipation, flatulence, and other symptoms of indigestion; and if the stools are examined, they are found to be of a pale or clay colour.

"Profuse hæmorrhage, under these circumstances, may either immediately follow the birth of the child, or may continue to recur for some time after labour. In two instances recently attended by me profuse hæmorrhage followed delivery; and in both the state of the hepatic functions was such as I have described. The recurrence of hæmorrhage led to an examination of the stools; in each case they were found to be clay coloured, and almost destitute of bile, and on restoring the action of the liver, the disposition to hæmorrhage was in each case removed. From these facts I have been led to believe that many instances of puerperal hæmorrhage might be prevented by inquiring into the condition of the liver and digestive organs before labour, and adopting such means as would rectify any derangement which might exist.

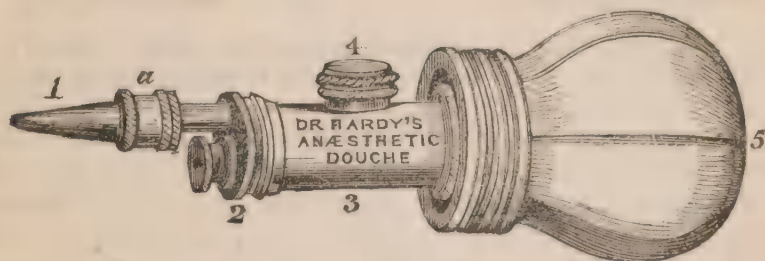
"The second class of cases I have referred to are those in which puerperal hæmorrhages occur in connection with an enfeebled state of the circulation; and this, inasmuch as it may have existed long antecedently to labour, is eminently amenable to preventive measures of treatment. It is met with in females whose physical health has been deteriorated or depressed by bodily disease, laborious or unhealthy occupations, or mental anxiety, and comprehends a very numerous category. In these, either from atony of the blood-vessels, or an extreme fluidity of the blood, but little or no barrier is opposed to the escape of this fluid; and if preventive treatment has not been adopted, but little good will sometimes result from any other. In all such cases the treatment should be of a prospective character, and directed to the improvement of the health before labour by the employment of such measures, hygienic and medicinal, as will amend the condition of the blood and augment the tone and vigour of the arterial system. In proportion as anæmia preponderates, iron will be indicated; where atony of the nervous and vascular systems is the more prominent condition, strychnia should be preferred; whilst in cases in which both these pathological elements co-exist, a combination of both remedies will answer best.

"As regards curative treatment, I would wish more especially to direct attention to the advantages likely to be derived from the employment of galvanism in these cases; not, indeed, locally applied to the uterus, but employed in a more general and diffusive manner, with the view of imparting increased tone to the arterial system at large. This, I believe, may be accomplished by passing somewhat powerful single currents from the upper portion of the spinal cord through the uterus. The opportunities I have had of observing the action of galvanism in obstetric practice, induce me to think favorably of it in these cases, and some investigations commenced with the view of determining its power in arresting arterial hæmorrhage support this opinion; whilst it must not be forgotten that several cases have been published in which uterine hæmorrhage has been thus speedily arrested. I will only add, that if my view of the source of hæmorrhage in cases of partial separation of the placenta is confirmed, it will prove a most valuable auxiliary in the treatment of placenta prævia; simultaneously tending to the arrest of hæmorrhage and the dilatation of the uterus."

1. *On local application of the vapors of Chloroform in the treatment of various diseases, especially in those of the uterine organs, with the description of an instrument invented for the purpose.* By S. L. HARDY, M.D., Examiner in Midwifery in the Royal College of Surgeons in Ireland. (Dublin Quarterly Journal of Medicine, November 1853.)
2. *On the use of Chloroform and other vapours, when applied locally in the form of vapour baths, &c.* By S. L. HARDY, M.D. (Dublin Medical Press, Feb. 25, 1854.)

In Dr. Hardy's hands the local application of the vapour of chloroform has proved of signal benefit in relieving many painful and distressing uterine affections, and we would wish to call attention to the subjoined cases as the best commentary on this fact. We must state, however, that the benefit of these applications is not confined to this class of cases. On the contrary, Dr. Hardy expects that this practice will be applicable to almost all kinds of painful malady, and that it will even serve to induce a local anæsthesia which is sufficiently deep to allow the performance of surgical operations without pain. That it will serve to abate pain in several painful disorders, proof has been already obtained, and we have incidentally related such a proof elsewhere, (p.) but how far it will serve to produce anæsthesia remains to be seen. It has answered in one or two instances, but so far as experience has yet gone—and it has gone to a considerable extent in France there are not many sufficient reasons to allow one to be very sanguine on this head. We would, however, pass over the general applications of the practice to notice its particular application to the relief of uterine maladies, for here at least we may find much matter for profitable reflection.

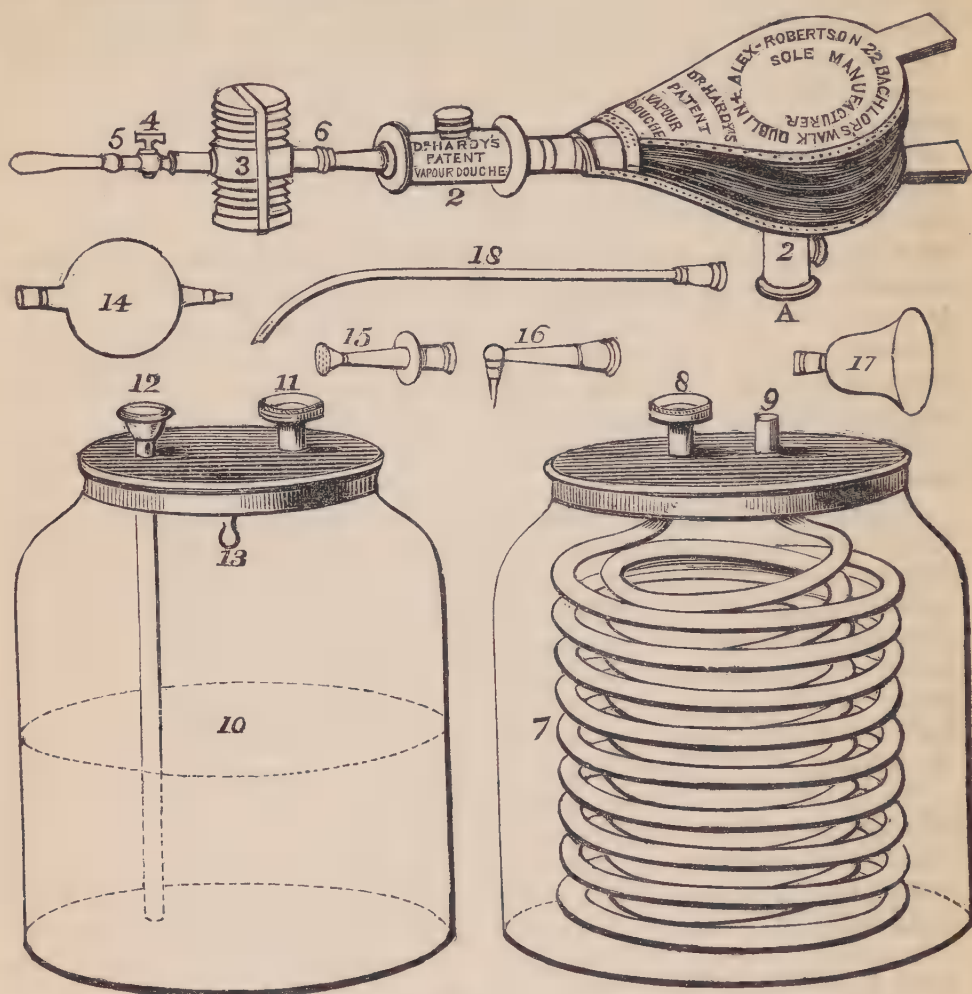
Dr. Hardy has employed two "anæsthetic douches" for the purpose of applying the chloroform vapour. The first (which was used in all the cases related below), consists of a small metallic chamber (3),



containing within it a sponge for holding the chloroform, having at one end a gum elastic bottle (5), and at the other a pipe (1) (containing a valve (a),) for transmitting the vapour. At the distal end of the chamber is a second valve (2), to admit atmospheric air into the gum elastic bottle. The sponge in the chamber is charged with chloroform by a screw stopper (4).

The second instrument is much more complicated. It is calculated

to afford a large and continuous supply of chloroform vapour, along with hot air or the vapour of hot water, or cold air, as the case may be. It consists of several parts.



The main part of the instrument is a bellows constructed partly of vulcanised india-rubber. This bellows is furnished with two sponge-chambers for chloroform (2, 2), one on the under surface where the air is admitted, and the other at the mouth where the air is expelled. This second chamber is provided with the nozzle, to which is affixed by means of a screw (6), a chamber (3), constructed like an harmonic, and made to react upon the jets of vapour escaping from the bellows, and convert them into a continuous stream, by means of an indian-rubber ring passed round it, as shown in the diagram. This elastic chamber is provided with an escape tube, furnished with a stop-cock (4), upon which tube are screwed conveyance-pipes of various kinds according to the locality to which the application is to be made (5, 15, 16, 17, 18.)* If it is wanted to apply the vapour of hot water along

* Fig. 18 and 14 have nothing to do with the application of chloroform vapour to the uterine organs; fig. 18, being a male catheter, for the purpose of applying the vapour to the male bladder; and fig. 14, a glass or platinum chamber for holding mercury or

with the chloroform, the inferior sponge-chamber of the bellows is screwed (at A), upon the escape-opening (11) of the jar (10.) This jar is filled half full of hot-water, the temperature being kept up by a spirit lamp, if necessary, and regulated by a thermometer suspended from a hook in the interior (13.) On working the bellows the air enters this jar through the entrance-tube (12), becomes heated in passing through the water, and at the same time charged with watery vapour; enters the bellows through the escape-opening (11), and so passes out through the elastic chamber, becoming charged with chloroform in its passage through the sponge-chambers. If much chloroform is wanted this jar may be made to hold chloroform instead of water, and so the air may be partly charged with this vapour before it reaches the sponge chamber. If it is desirable to apply the chloroform along with cold air, the inferior sponge chamber of the bellows is screwed (at A) upon the end (8), of a long coil of tubing (7), which coil is immersed in a freezing mixture. The air entering this coil at its free extremity (9), becomes cooled in its passage, before it arrives at the bellows.

With these preliminary remarks, we leave Dr. Hardy to tell his own tale.

"CASE I.—Mrs. L., æt. 45, a very large, strong-looking woman, weighing about eighteen stone, the mother of seven children, her youngest five years old, had frequent attacks of uterine hæmorrhage at irregular periods, which she supposed to be menorrhagic, as her regular menstruation, she said, had not ceased when those irregular hæmorrhagic discharges began. Little notice was at first taken of them, but as they resisted the means adopted by her medical attendants, it was deemed necessary to have the uterus examined, for which purpose I was called to see her on the 19th of February, 1853.

"I learned that, besides hæmorrhage, she had in the intervals a most offensive muco-purulent discharge; there was a sensation of burning experienced in the loins, the bladder was more or less irritable, and the bowels were generally confined, the alvine dejections being of an exceedingly dark colour, and looking as if streaked with blood: altogether she felt nervous to the greatest degree, and had become remarkably pale and weak from hæmorrhage, which was not only frequent in its returns, but very profuse.

"On examination with the finger, the uterus felt extensively affected by carcinoma; ulceration had destroyed the cervix to a great extent; the edges of the ulcerated parts were most exquisitely tender to the touch, sharp and severe pain being complained of, from the gentlest pressure with the finger.

"Under the use of astringent and soothing lotions, cupping over the loins and sacrum, with tonics, &c., given internally, the hæmorrhage ceased, and only returned at long intervals, and mostly owing to some accidental circumstance, such as a drive on a rough car, violent mental emotions, to which her exceedingly nervous temperament made her peculiarly liable, or awkwardness on the part of her nurse in using the syringe

iodine, and which has to be screwed on between the elastic chamber (3) and the conveyance-pipe (5) when the instrument may be wanted for mercurial or iodine fumigations. Our engraver, in point of fact, has copied more than was necessary for our present purpose.

when injecting lotions. The sensation of heat in the loins was also relieved in the course of a few days, and only troubled her occasionally; constipation of the bowels invariably increased her sufferings, and if unrelieved by aperient medicine frequently caused a recurrence of the hæmorrhage. At this time she did not suffer much, nor had she the characteristic pains of carcinoma until the month of May. In order to avoid the necessity for giving opiates, when pain became severe, various remedies were resorted to, such as tincture of Indian hemp, camphor and extract of hyoscyamus, chloroform in draughts, cupping over the loins, sacrum, tepid hip-bath, &c. A drachm of chloroform and a scruple of camphor, mixed with an ounce of white wax ointment, to which was added occasionally a drachm of extract of belladonna, when rubbed over the loins, either after or without the use of the hip-bath, gave very great relief, and was exceedingly grateful to her.

"Gentle exercise, by driving in the open air, improved her appetite very much, and tended towards obtaining comfortable sleep for her at night. At length the pains became so severe that morphia draughts were frequently required. I now resorted to the local application of the vapour of chloroform, and with the most satisfactory results.

"When the vapour douche of chloroform was used for about two minutes the finger could be moved freely over the edge of the ulcerated uterus without causing the least degree of pain, which never was the case before. The patient said she had a feeling of warmth or heat during the action of the vapour, which was soon succeeded by a numb sensation.

"The first time that pain required the chloroform to be applied, the suffering was perfectly removed in a few minutes, and the relief was so great that, on withdrawing the instrument, she fell into a most refreshing sleep, and had an excellent night's rest. It is now always resorted to when the pain must be quieted, and is very much preferred by the patient for that purpose to the morphia draughts, as she says her head is free from uneasy sensations the next day, which is not the case when she takes morphia.

"For the following cases, Nos. II and III, chloroform vapour seems to be particularly well suited. Before making a trial I had expected good results from its application; but the rapidity of its action in giving relief in each, and the permanency of the ease afforded in case No. III exceeded my hopes very much. It is deserving of notice, that in Case II the duration of the menstrual period was much lengthened, from which circumstance it may be inferred that the application has not only the effect of saving the patient from her usual degree of suffering, but, by subduing the spasmodic action of the uterus, tends towards the production of a more natural secretion. As yet, I have not had an opportunity of testing its efficacy thus in the patient of Case III; it is her intention, however, to resort to its use when next about to menstruate, so that at a future time the results may be laid before the reader.*

* Since the above was in print, we learn that this patient applied the vapour, and for the first time in her life menstruated without pain.—EDS.

"CASE II.—Miss R., æt. 25, was for some months under treatment for disease of the uterus before coming under my care,

"When I first saw her on the 13th September, 1853, she informed me that the ulceration which had affected her womb was for some time healed (which statement was verified by examination), and that she now suffered from very intense pain in that organ, which seized her every morning on awakening, and continued more or less during the day, accompanied by painful sensations in the lower part of the back. Menstruation was regular in its return, but its approach was attended with very severe pain, the secretion was very scanty, and continued but for one day only. Her appetite was not good, and she was exceedingly nervous and weak.

"Part of the treatment I adopted with this lady was the application of the vapour of chloroform to the uterus, which she was able to do herself. A very few days had passed when she told me the vapour always relieved her, and she felt improved under its use, and when applied at night going to bed she had the pain much less severe next morning.

"On the 19th she had the sensations usually experienced on the approach of menstruation, which on former occasions were, as already noticed, exceedingly painful, but at this time she resorted to the chloroform vapour, which had the effect of rendering her perfectly comfortable, and the secretion, which usually lasted for but one day, now continued for three.

"CASE III.—Mrs. F., æt. 25, a strong-looking woman, first came under my care on the 23d of April, 1853. Shortly after marriage, which took place three years before this date, she aborted; since then she did not again become pregnant. Menstruation, both before marriage and to this time, was always very painful; the discharge scanty, and dysmenorrhœal membrane frequently expelled.

"For the last two and a half years her health and strength very much declined, and she suffered from severe pain in the back and uterine region, attended with leucorrhœal discharge. On examination by the speculum excoriation of the os and cervix uteri was discovered, which soon got well under the treatment adopted.

"On the 15th of September she again consulted me on account of a return of the severe lumbar and uterine pain which had troubled her for some time past, but on the day previous to her coming to me was so excruciating, and accompanied by so much pain in her breasts, that she thought it impossible she could have borne it. This day the pain in her breasts was better, but in other respects she suffered nearly as much as on yesterday, from pain in the pubic and uterine regions, and back. The uterus was tender to the touch when examined by the finger internally, but no abrasion of the os or cervix was discovered by the speculum. The vapour of chloroform locally applied by the anæsthetic douche, had the most immediate and happy effects. In no case that I have met with did relief so instantly succeed to its use. Not more than a minute could have passed from commencing its application when the patient expressed herself relieved from, first, the lumbar pain, and next, that in the pubic and uterine regions. After I had withdrawn the instrument, for some time a sensation of warmth, of a very agreeable nature, combined with that of strength, was described as being felt in the back. Altogether, she said, for months she had not been so free from pain or so comfort-

able. Judging from the expression of countenance, the change so immediate from suffering to freedom from pain was most remarkable. There was no return of it until about eight o'clock in the evening, from the time of the application of chloroform during the day, which was between twelve and one o'clock; but it was then so trivial that she did not think anything of it. The next day two or three jets of the douche quite removed every trace of uneasiness. The patient said she was not only relieved of the pain in her back, but she was perfectly free from a bearing down sensation which had troubled her very much for some time past.

"The drain of suckling on a weak constitution tends to the production of many debilitating and nervous complaints, which are met with very frequently in the form of headache, giddiness, pain in various situations, &c. The following case affords an instance of this description. The subject of it was very unfit to act in the capacity of wet-nurse, and was rendered still more unfit by the occurrence of uterine hæmorrhage. Increased debility, as a natural consequence, followed the loss of blood; then came on violent lumbar and epigastric pains.

"The remedies usually resorted to in such cases, and which are very beneficial, consist in tonics and anti-spasmodics, to which must be added a full and generous regimen, with exercise in the open air; but in the present instance it was very desirable to relieve suffering immediately, which was of a very severe nature, and, in itself, independent of the previous drain, exceedingly debilitating to the patient's constitution. The vapour of chloroform served to effect this in a most satisfactory manner, and within the space of a much shorter time than could have been accomplished by any other remedy with which I am acquainted, while it in no way prevented the adoption afterwards of those means which were fitted to restore strength and vigour.

"CASE IV.—Mrs. K., æt. 32, a delicate-looking person, the mother of six children, at present nursing her youngest, a child of seven months old, was seized in August last with violent uterine hæmorrhage, since which occurrence her back troubled her very much, and for three days previous to my seeing her was accompanied by severe pain, referred to the epigastric region. Owing to the violence of her sufferings she came to consult me about three weeks after the attack of uterine hæmorrhage. She seemed in great pain, and was bent forward from that in the epigastrium, which she described as running across from right to left. Immediate relief was anxiously sought for: I therefore proceeded to apply the vapour of chloroform to the uterus, *per vaginam*, by the anæsthetic douche, in hopes of giving her ease sooner in this way than by any other means. I had scarcely sent half-a-dozen jets against the os uteri when the pain subsided, first in the back, and immediately after in the epigastrium. The sensation perceived by her she described as being a most agreeable and comfortable feeling of heat in the spine, and a total relief from every trace of pain, which ease she had been a stranger to for the last three weeks. On rising from the sofa to sit in the upright position she felt a little weak, but only for a few minutes. During the application of the vapour, she had no unpleasant or unusual sensation in her head, and the pulse seemed unaffected.

"When abortion frequently takes place in any female, but more par-

ticularly in one of a much-injured constitution, having in it the dregs of syphilis, diseases hard to manage, and attended with a good deal of distress, are occasionally presented to the medical man. The case next detailed is very much of this description. Various remedies were resorted to, but none of them served to secure perfect relief to the patient, whose situation in life rendered her peculiarly liable to relapse. She was the wife of a soldier, and consequently passed from the care of one medical practitioner to that of another, to which circumstance she referred much of her delicacy.

"It will be seen in the notes of the case that chloroform was used in the form of ointment with more relief than was obtained from any of the other remedies, but at length failed in procuring ease; however, by resorting to the vapour, the benefit derived was very decided, and far more effectual than had been before experienced from any previous plan of treatment. The patient herself felt so entirely free from her usual sensation, that her countenance now bore the expression of comfort and satisfaction.

"CASE V.—Mrs. R., æt. 33, a very weak, sickly-looking woman, came under my care on the 4th of April, 1853, on account of uterine hæmorrhage, which had followed a miscarriage she had three weeks previously. She had brought forth three children, all premature, and had several abortions. From her general appearance, and the history of her case, I found that a syphilitic taint was in the constitution; and the want of proper advice and care at all times, but particularly in her abortions, had added much towards increasing her delicacy. After the hæmorrhagic discharge was altogether restrained, it was discovered that ulceration of the os uteri existed, which got quite well under treatment. During the time that it was present, and for some time after its being healed, she suffered very much from pain in the back and loins, with a most distressing sensation of scalding in the vagina, which required numerous remedies for its relief. One of the most effectual was the ointment mentioned in Case I. Rubbing a little of this across the loins and over the sacrum was very soothing and agreeable.

"On the 12th of September she had a return of pain in the back and vagina such as I have described, but without a recurrence of ulceration of the os uteri. She resorted to the use of the ointment to her loins in the usual way, but without obtaining relief.

"On the 15th she was forced to come to me, having suffered so much during the previous night, and was evidently in very great distress. I now applied the chloroform vapour, by means of the anæsthetic douche, to the uterus and vagina. In about four or five minutes she experienced relief, first in the back, and presently after in the vagina. I continued its use for several minutes in order to render the effect more permanent, which so fully succeeded, that she walked away feeling quite comfortable and free from pain. When I next saw her, a few days after the application, she said relief was still felt by her, and that she had more ease than for a very long time previously."

* * * * *

"In observing the effects of chloroform as applied locally in the form of vapour in the above cases, I have endeavoured to obtain as correct a notion of it as possible, in order that a true estimate might be arrived at

of its value as a remedy. Besides the cases here recorded, I have applied the vapour locally in various other forms of irritation. One of these in particular I was anxious to know its action in—namely *pruritus pudendi*, a disease exceedingly troublesome and unpleasant to the patient, and for the relief of which she is often very reluctant to ask a remedy until forced to do so. I have used it in a case of this kind in the person of a very intelligent patient, who for a length of time had been annoyed, particularly on the approach of a menstrual period, by this distressing complaint, for which she had made use of various remedies. The vapour of chloroform, she informed me, afforded her relief from her uneasy sensations. On referring to one of the cases (Case V) detailed, it will be seen that there was a very severe sense of scalding in the vagina, which seemed to depend a good deal on uterine irritation. Knowing the heat caused by the vapour of chloroform, I feared this patient should have suffered severely from its application; but, on the contrary, she was quite relieved of it; so in *pruritus pudendi*, arising from a similar cause, the like results have been obtained as in her case.

“If future investigation as to the effect of the vapour of chloroform when locally applied, coincide with the results already observed in the series of cases herein detailed, it seems reasonable that the following conclusions be considered deducible:—

“First. That in many forms of disease attended with pain or irritation the local application of the vapour of chloroform will frequently act as quickly in affording immunity from suffering as though inhaled in the usual manner.

“Secondly. That the vapour locally applied is not attended with any unpleasant effects (save the sensation of more or less heat), either at the time or subsequently, and is therefore eligible under circumstances contra-indicating its use by inhalation.

“Thirdly. That as a remedy, its local application is preferable to the use of opium and most narcotics in spasmodic and painful affections, particularly of the uterine system, owing, first, to its freedom from causing derangement of the digestive organs, and secondly, to its greater rapidity of action.”

Cases of Laceration of the Perineum and Procidentia of the Uterus and Rectum remedied by operation. By J. C. W. LEVER, M.D.; with a Letter, by JOHN HILTON, F.R.S. (‘Guy’s Hospital Reports,’ vol. viii, pt. ii, p. 401.)

These cases are of great interest, as exhibiting a new and simple, and to all appearance, effectual means of relieving these very distressing maladies. The letter by Mr. Hilton, which is appended to them, renders all explanation on our part unnecessary:—

“E. S—, æt. 32, was delivered of her first child on May 17th, by the assistance of the long forceps. During her pregnancy her health had been uninterrupted. For some time before labour was established she had slight premonitory pains; these so increased on May 14th as to call for the exhibition of an opiate. On May 16th, a.m., the os uteri was about the size of a shilling, with a thin unyielding edge, and the pains

recurred every half hour. At 11 a.m., May 17th, the os uteri was widely dilated, but rigid; the pains exceedingly violent, the passages hot, urine dribbling, scaly tumour large. V.S. ad 3x was practised, and a pint and a half of urine was drawn from the bladder. About noon the pains began to flag, and about 2 p.m. the surgeon in attendance deemed it right to apply the forceps, and succeeded in delivering a dead female child in about half an hour. For five or six days after her delivery she required the introduction of the catheter. On the third day after delivery she had an offensive discharge, which was relieved by vaginal injection, but continued for a fortnight. After her confinement she was unable to retain her fæces, attributed by herself to simple relaxation. About a month after her confinement, while riding in an omnibus, she felt bearing-down pains, which were removed by lying in bed. On admission she complained of a sensation as if a foreign body was in the rectum. There were occasional discharges of blood from the bowels, but no pain when the evacuations passed. Her health was tolerably good, appetite moderate. On examination, the sphincter ani was found to be divided anteriorly by a laceration extending through the perineum, so that the fæces passed involuntarily; and on each side of the sphincter there were two or three congested hemorrhoids, which, on August 4th, were tied; the pain at first was severe, but soon subsided.

"Aug. 7th.—She complained of a sensation of cutting and smarting at the bottom of the coccyx; piles sloughing.—Ordered bread and water poultices.

"11th.—Tinct. myrrhæ ter die applic.

"15th.—Decidedly improved; had more control over the rectum. Laceration more healthy in appearance, and more contracted.

"20th.—Could retain the fæces for a short time, but the pain in the back continued.

"26th.—The coccygeal attachments of the external sphincter and levatores ani were divided by a subcutaneous incision by Mr. Hilton; there was slight bleeding, which was checked by the application of a firm perineal pad and bandage.

"30th.—Catamenia were present for the first time since her confinement.

"Sept. 1st.—She had now command on the rectum; but she felt a bearing-down pain after standing or sitting.

"7th.—Slight ecchymosis on the point corresponding to the incision; there was a continuous surface of mucous membrane from the sphincter to the vagina.

"On Sept. 19th, she was presented.

"This patient, when last seen, two and a half years after the operation, had lost the pain and bearing down, and had full command over the bowels, except occasionally when the fæces were very fluid.

"T. B., æt. 27, was admitted into Guy's Hospital on Dec. 12th, 1848. She had been married for seven months, had had a child at the age of 18; had from that time suffered from falling of the womb and leucorrhœa. Menstruation commenced at the age of nine, and had at all times been regularly performed. For three years the uterus had protruded externally, but not so much so as to interfere with the performance of her duties as servant of all work until within ten weeks prior to her admission. Her

husband, a sailor, left her two weeks after her marriage, and she again took a situation, but this being more laborious than her former one, caused the uterus to protude to a greater extent, with a considerable portion of the rectum. On admission, she complained of frequent attacks of headache, with giddiness; her appetite was extraordinarily large; she had constant craving for food; tongue was clean, but pallid; pulse feeble; countenance anxious. On examination, after she had been reclining in bed for twenty-four hours, the uterus was found to be much displaced, the os and cervix being external; there was no ulceration, but a copious glairy discharge flowed from the cavity. A considerable portion of the rectum protruded through the anal opening, its mucous membrane being intensely injected with blood, and very tender when touched. She complained of constant burning pain in the rectum, with inability to retain the fæces if the stools were fluid.

"Mr. Hilton, who saw her on the 15th, advised perfect quietude, and that no surgical operation should be performed until the parts had had time to recover themselves to a certain degree, by the patient being kept in a recumbent position.

"26th.—The displaced part had returned and continued up except on assuming the erect posture or going to stool; the mucous membrane of the rectum was much less injected, and the rugæ more distinct.

"Jan. 15th.—Improved, but displacement still occurred on changing her position.

"Feb. 10th.—Mr. Hilton divided the coccygeal attachments of the external sphincter ani and the levatores ani by a subcutaneous incision with a bistoury; a sponge was passed into the rectum, and a compress and bandage applied externally to prevent bleeding.

"11th.—Had but little sleep last night; sponge withdrawn; no bleeding; employment of catheter necessary,

"16th.—Catheter required for two or three days after the operation; as her bowels had not been relieved since the 9th, a simple enema was administered last night, but this proving ineffectual, a soap enema was injected this morning; this had the effect of relieving the bowels almost immediately, but the rectum, which had not protruded since the operation, descended to a slight degree, and caused her considerable pain.

"24th.—Progressing very favorably. There was a hollow on either side of the inferior extremity of the coccyx from the internal contraction of the levatores ani. The bowels were occasionally opened by the aid of an enema, and had not since descended, but she suffered some pain in defæcation.

"27th.—When the enema tube was introduced this morning, some pus was discharged, and the evacuation which followed was attended with but slight inconvenience.

"March 8th.—No prolapsus attended the act of defæcation.

"16th.—An utero-abdominal supporter was applied, and she was permitted to walk about.

"21st.—No protrusion of either uterus or rectum, and on this day she left the hospital.

"This woman was seen more than three years after she left the hospital, and stated there was no descent either of the uterus or rectum, but she was compelled to be attentive to the state of her bowels.

"I append to these notes a letter which I have received from my colleague, Mr. Hilton, detailing his reasons for performing the operation.

"10, New Broad Street; October, 1853.

"MY DEAR LEVER,

"I certainly think the cases of lacerated perineum are worth publishing, and I have great pleasure in sending to you a statement of the reasons which induced me to adopt the operation performed in each of the cases. As far as I know, such an operation had not been done before that period, 1848, with the purpose of relieving the distress and annoyance to which these patients were exposed, but in this opinion regarding the originality of the operation I may be wrong, if so, your better information will set me right.

"When you requested my assistance to determine what had best be done in a surgical direction, remembering that the levatores ani have one firm and fixed attachment to bone near the arch of the pubes, and another at the coccyx, and that the external sphincter ani might be regarded anatomically nearly in the same light in relation to its effects upon the injury to the perineum, and bearing in mind that all muscles contract towards their more fixed point, no matter how that fixity of position may have been acquired, it occurred to me, if I could by a simple and uncomplicated operation, disengage the coccygeal attachments of the levatores ani, I might allow them to retract the anal aperture and adjacent structures in a direction towards the pubes, as it were, to bury the perineal injury deeply in the pelvis, thus enabling the lower fibres of those muscles (which blend with the muscular parietes of the vagina, rectum, and perineum) to assume the office of a sphincter to the lacerated opening, by approximating the edges of it, and drawing it upwards towards the pubic arch. In reference to the external sphincter ani, I concluded that, by taking away or separating the coccygeal fixed point of that muscle, I should necessarily change the direction of its contractile power from the coccyx towards the vagina, and thence to the pubes; this I hoped would help to occlude the lacerated opening between the vagina and rectum. Whether I had reasoned rightly or not, the results were as satisfactory, and indeed more so, than I had anticipated. It seemed to myself, that two ulterior purposes might be held in view by such an operation; the first was to ascertain how much of complete relief could be afforded by an operation which promised to be altogether free from both the danger and the severity of the ordinary operation for such cases; and secondly, should no important immediate benefit be derived, it would certainly tend to the advantage of the patient, by putting the parts into a better state (by relaxing them, and so taking off tension) for the easy and perfect accomplishment of the usual but more formidable operation of paring the edges of the lacerated wound, and maintaining them in contact for a time by sutures.

"The method of proceeding was as follows:—A narrow sharp-pointed knife was introduced through the skin on one side of the point or free extremity of the coccyx, about half or three quarters of an inch from its end; it was then passed into the pelvis, between the concave surface of the coccyx and the rectum, special care being taken not to puncture the intestine; the cutting edge of the knife was now made to sweep over the

sides and end of the coccyx, so as to separate from it the coccygeal attachments of both the sphincter and levatores ani; the knife was then withdrawn through the same small opening by which it had been introduced; scarcely any blood escaped at the wound, but a compress of lint supported by adhesive plaster was applied over it, to keep the parts quiet, and to intercept the flow of blood.

“ ‘That the operation had accomplished its intention of detaching the muscles from the coccyx, was obvious enough, by examining with the finger upon the skin, the median line between the end of the coccyx and the posterior margin of the anus, the resistance which the muscles naturally give to pressure in that position had disappeared, and the anal aperture became retracted or drawn up into the pelvis.

“ ‘During the time I had the opportunity of seeing the patients after the operations, I have no hesitation in saying they were much benefited by what had been done for them, so much so, that no further treatment was deemed necessary. How far the operation may have succeeded ultimately and persistently, I do not know.

“ ‘Yours faithfully,

“ ‘JOHN HILTON.’ ”

IV.

REPORT ON PHYSIOLOGY.

1. *On the presence of Cellulose in the Brain and other parts of the nervous system in man.* By RUDOLPH VIRCHOW. (Virchow's 'Archiv,' b. vi, h. 1, p. 135.)
2. *On the presence of Starch in the Brain of man.* By GEORGE BUSK, F.R.S. ('Journal of Microscopical Science,' No. VI, p. 101.)

The discovery of cellulose and starch in man is an event of no small moment, for, by demonstrating the presence of vegetable products in the highest animal organism, it does much to break down the remains of that barrier which has been erected between the animal and vegetable kingdoms by the dogmatism and prejudices of bygone ages. The interest and significance of this discovery, moreover, is greatly enhanced by M. Claude Bernard's discovery of another vegetable product—sugar—in the liver; a discovery of which we shall have to speak presently.

I. After alluding to the discovery of *cellulose* in ascidians, by Carl Schmidt, in 1845, and to the more recent discovery of *paramylose*—a substance isomeric with starch—by Gottlieb, in *Euglena viridis*, M. Virchow proceeds to state that he was guided, by the resemblance existing between the structure of the umbilical cord in man and the cellulose tissue of ascidians, to suppose that he might find cellulose in this cord. In this expectation he was disappointed. He persevered, however; and he thus describes the result:—

“I was more fortunate when, a short time since, I directed my attention to the so-termed *corpora amylacea* of the brain, upon the precise nature of which, contrasted with the other kinds of amyloid bodies in man, I had not previously arrived at any accurate notion. ('Wurzb. Verh.,' 1851. Bd. ii, p. 51.) It was now apparent that these bodies assumed a pale blue tinge upon the application of iodine, and upon the subsequent addition of sulphuric acid, presented the beautiful violet colour which is known as belonging to *cellulose*; and which in the present instance appears the more intense from the contrast with the surrounding yellow or brown nitrogenous substance.

“I have repeated this experiment so often, and with so many precautions, that I regard the result as quite certain. Not only have I instituted comparative researches in different human bodies, and in the most various localities, but I have also noticed the action of the reagents under all possible conditions. The experiment is best made in the mode

adopted by Mulder and Harting, with vegetable cellulose (*v.* Mole-schott, 'Physiologie des Stoffwechsels,' p. 103), viz., by causing the action of diluted sulphuric acid to follow that of a watery solution of iodine. The iodine solution should not be too strong, for the observation may then be impeded by its precipitation; and, on the other hand, care must be taken that the iodine exerts due action upon the substance. Owing to the volatility of the iodine, and its great affinity for animal substances, its action is usually very unequal, so that the border of the object and not the centre may be penetrated by it; or, perhaps, of spots in close contiguity, one will contain iodine and the other not. It is, consequently, always advisable to repeat the application of the iodine several times, but to avoid the addition of too much. Upon the subsequent addition of sulphuric acid, if the action have been too powerful, the result is a perfectly opaque, red-brown colour. The most certain results are obtained if the sulphuric acid be allowed to act very slowly. In fact, I have procured the most beautiful objects in allowing a preparation covered with the glass to remain undisturbed with a drop of sulphuric acid in contact with the edge of the covering-glass for from twelve to twenty-four hours. Under these circumstances, the most beautiful light violet-blue was occasionally presented. Lastly, I would just intimate that accidental mixtures of starch or cellulose may readily happen, seeing that very light fibres or minute particles from the cloths with which the object and covering-glasses have been cleaned, may very easily be left upon them, which would afterwards exhibit the same reaction as the above.

"Every precaution having been taken, the following results will be obtained:—

"1. The *corpora amylacea* (Purkinje) are chemically different from the concentric-spherical corpuscles of which the brain-sand is composed, and with which they have hitherto usually been confounded. The organic matrix of the brain-sand granules is obviously nitrogenous: it is coloured of a deep yellow by iodine and sulphuric acid. This is true not only of the sabulous matter in the pineal gland and choroid plexuses, but also of that of the Pacchionian granulations and of the *dura mater*, as well as of the dentate plates in the spinal arachnoid. In all these parts I have, in general, nowhere obtained the blue reaction, except in a few spots in the pineal gland. It would, therefore, for the future, be convenient to restrict the name of '*corporea amylacea*' to the bodies containing cellulose.

"2. These bodies exist, so far as I have at present found, only in the substance of the *ependyma ventriculorum* and its prolongations. In this I include especially the lining of the cerebral ventricles and the transparent substance in the spinal cord described by Kölliker, as the *substantia grisea centralis* ('Mikrosk. Anat.,' Bd. ii. 1. p. 413). With respect to the cerebral ventricles, I have already repeatedly stated, that I find them to be lined throughout with a membrane belonging to the connective tissue class, upon which rests an epithelium. This membrane contains very fine cellular elements, and a matrix sometimes of more dense, sometimes of softer consistence, and is continued on the internal aspect without any special boundary between the nervous elements. In the deeper layers of this membrane, and in immediate contiguity with the nerve fibres, the cellulose corpuscles are found most abundantly, and they are

also especially numerous where the *ependyma* is very thick. They are consequently very abundant on the *fornix*, *septum lucidum*, and in the *stria cornea* in the fourth ventricle. In the spinal cord, the substance corresponding to the *ependyma* lies in the middle, in the grey substance, in the situation where the spinal canal exists in the fœtus. It there forms evidently a rudiment of the obliterated canal, such as is presented in the obliteration of the posterior cornu of the lateral ventricle, which is so frequently met with. In a transverse section of the cord, it is easily recognised as a gelatinous, somewhat resistant substance, which may be readily isolated. Its cells are much larger and more perfect than those of the cerebral *ependyma*. This *ependyma spinale* forms a continuous gelatinous filament, which extends to the *filum terminale*, and might, therefore, perhaps, be most suitably described as the *central ependymal filament*. In it the cellulose granules are also found, though, as it would seem, more abundantly in the upper than in the lower portion. In other situations I have sought for these bodies in vain, and in particular I have been unable to find them in the external cortical layer of the cerebrum, or anywhere in the interior of the cerebral substance.

“3. Since, from the experiment of Cl. Bernard, who produced saccharine urine by wounding the floor of the fourth ventricle in the rabbit, there appeared to be reason to conclude that the existence of cellulose was connected with that phenomenon. I sought for it also in rabbits, but in vain: I found in that situation, both in the fourth, and the third, and in the lateral ventricles, a very beautiful tessellated *epithelium* with very long vibratile cilia, but no cellulose.

“4. The cellulose granules, therefore, appear to be everywhere connected with the existence of the *ependyma substance* of a certain thickness, and might perhaps be regarded as a constituent of it. They occur of excessively minute size, so that the *nuclei* of the *ependyma* scarcely correspond with them. Can they be formed out of the latter? The larger they are, the more distinctly laminated do they appear. But there is never any indication in them of a nitrogenous admixture, recognisable by a yellow colour. The centre only is usually of a darker blue, and consequently perhaps more dense than the cortical *laminæ*.

“5. As to an introduction of these bodies from without, such a supposition is the less probable, because a similar substance is nowhere else known. We are acquainted with a series of varieties of vegetable cellulose, but the substance now in question appears to be distinguished above all by its slight power of resistance to reagents, seeing that concentrated acids and alkalis attack it more powerfully than is usually the case with the cellulose of plants.

“6. In the child I have as yet sought for it in vain, so that, like the ‘brain-sand,’ it appears to arise in a later state of development, and probably may have a certain pathological import.

“Since writing the above, Professor Virchow has repeated and confirmed his observations, and ascertained in addition that similar bodies also occur in the higher nerves of sense. He found them most abundantly in the soft grey interstitial substance of the olfactory nerve, less frequently in the acoustic, although the observations of Meissner (*Zeitsch. f. rat. Med.*, N. F., Bd. iii, pp. 358, 363) would indicate a proportionately great disposition to their formation in that situation. Rokitsansky

appears to have seen them in the optic nerve, and from an oral communication the author has learned that Kölliker has found them in the retina.

"Having already stated that the *ependyma* is continued without special limitation among the nervous elements, the author goes on to observe that it is now apparent that there is a continuous extension of the same substance in the interior of the higher nerves of sense. From a series of pathological observations, he concludes that a soft matrix referrible mainly to connective-tissue substance everywhere pervades and connects the nervous elements in the centres, and that the *ependyma* is only a free superficial expansion of it over the nervous elements. The opinion, that the epithelium of the cerebral ventricles rests immediately upon the nervous elements, appears to have arisen from a confusion of this interstitial substance with the true nerve-substance.

"The isolation of the *corpora amylacea* in larger quantity, in order that they should be subjected to chemical analysis, the author has not yet succeeded in effecting. Nevertheless it seems impossible to entertain any doubt as to their cellulose nature. No other substance is known which affords the same reaction; and although the author has examined the most various animal tissues, and has accurately investigated, particularly, the concentric corpuscles occurring elsewhere, as in the *thymus* in tumours, &c., nothing of the same kind has presented itself."

II. Since this time, Mr. Busk has examined the brains of one or two individuals, with a view to verifying the observations of M. Virchow, and his examination has led to the further discovery of starch. Admitting that his observations are as yet too scanty to justify the expression of any settled opinion, Mr. Busk writes:—

"The first case I examined was that of a young man, who died of the consecutive fever of cholera, after an illness of five or six days, during the whole of which period the renal secretion was completely suppressed. What I noticed in this case was:—

"1. The enormous abundance of the *corpora amylacea* in certain situations, as the *ependyma ventriculorum*, particularly on the *septum lucidum*, and more especially also on the choroid plexuses, upon gently scraping the surface of which a fluid was obtained containing these bodies in the most surprising quantity.

"2. That they existed in immense abundance in the olfactory bulbs, and in the superficial parts of the brain, both cortical and medullary, contiguous to the tract of the olfactory nerves. But scarcely any part of the *cerebrum* and *cerebellum* could be examined, at all events towards the surface, without meeting with some or more; and they occurred abundantly in the very middle of the *cerebellum*. Their distribution, however, was very irregular, inasmuch as they abounded in some spots, and were nearly, if not altogether wanting in others. I could find none in the *corpora striata*, where they seemed to be replaced by 'brain-sand,' of which more will be said afterwards.

"3. The cerebral substance in immediate contiguity with the *corpora amylacea* appeared quite natural.

"4. The corpuscles were starch, and not cellulose, and possessed all the structural, chemical, and optical properties of starch, as it occurs in plants, as the following few details will show:—

"They were of all sizes, from less than a blood-disc up to 1-500th inch or more—generally more or less ovate, but many irregular in outline, and apparently flattened as all the larger kinds of starch I believe are. Many of the larger ones showed the appearance which, in starch, has been erroneously described as indicative of a laminated structure; whilst in others this appearance under any mode of illumination did not exist. The point that would correspond with the so-called *nucleus* of a starch-grain was, unlike that of most kinds of starch, central, and consequently the laminated marking was concentric to the grain, which is rarely the case with the starch of plants. This apparent lamination depends, as I believe, upon the same circumstances as in other starch (*v.* 'Trans. Micr. Soc.' Quart. Journ., vol. i., p. 58), that is to say, upon the corrugation of a thin *sacculus*. That this was the case I satisfied myself by the use of sulphuric acid and of Schultz's solution (chloride of zinc and iodine), in the mode described in my paper above quoted. By these means, but more readily and conveniently by far by the latter, the *corpora amylacea* could be seen to unfold into empty, flaccid, thin-walled, blue sacculi, six to eight times larger than the original grain. Their structure thus appearing to be identical with that of starch, the identity of their chemical composition was rendered evident with equal facility. Simple watery solution of iodine coloured them deep blue, which ultimately became perfectly black and opaque. They were soluble after swelling and expanding in strong sulphuric acid, and by heat; and moreover they acted upon polarised light in the same way as starch does. Some of the smaller grains exhibited a distinct and sharply-defined black cross, of which the lines crossed at angles of 45° in the middle of the grain, but in the majority, there was only a single dark line in the long diameter of the grain, and which seemed always to correspond with an irregular fissure of hilus, as it might be termed, in the same direction, which was presented in a great many of the grains, and seemed to be the indication of a partial inrolling of them, as in the starch of the horse-chesnut. This longitudinal fissure was not unfrequently crossed by a shorter one at *right* angles. When the covering-glass was closely pressed, the grains were easily crushed, breaking up in radiating cracks around the margin; and sometimes, when thus compressed, a concentric annulation would become evident, which was before inapparent.

"In the *corpora striata*, as I have mentioned above, I could find few or no starch-grains, but here an appearance presented itself which seems to be connected with their formation. Many particles of sabulous matter or crystalline corpuscles of the ordinary 'brain-sand' were met with, all of which, instead of lying like the starch-grains, in the midst of unaltered nerve-substance, were lodged in irregular masses of what appeared a fibrinous or immature connective-tissue-substance; and in this instance, upon the addition of iodine, each mass of crystals was found to be immediately surrounded by an irregular thickness of a transparent matter, which was turned not *blue*, but a light *purplish-pink* by that reagent—a substance in fact closely resembling in that respect the very early condition of the cellulose wall; for instance, in *Hydrodictyon*,—an immature form, as it may be termed of cellulose.

"In a second case, that of an old man—dead of chronic dysentery, and who died comatose—I found the ventricles distended with about

three ounces of clear fluid. The surface of the *ependyma* throughout all the continuous cavities, was studded like shagreen with minute transparent granulations, which, on microscopic examination appeared finely granular and homogenous, or sometimes faintly fibrillated. In this case there were, I think, no *corpora amylacea* in the *ependyma* (at least I found none), nor in the central substance of the brain; a few were met with in the peripheral portions, especially on the summits of the hemispheres, and still more in the much-developed Pacchionian granulations, and there commingled with *other* concentrically-laminated bodies, which formed botryoidal masses, imbedded in a stroma of immature connective tissue; these bodies, which might, to distinguish them, be termed the 'chalcedonic corpuscles,' were rendered yellow by iodine. In this case also, I did not notice the *quasi* cellulose deposit around the particles of 'brain-sand,' but in several instances I saw minute amylaceous particles (coloured blue by iodine), contained in cells which they only partially occupied."*

"NOTE.—In the 'Comptes Rendus,' No. 23, (December 5, 1853,) are some further observations on the 'Animal Substances analogous to Vegetable Cellulose,' by R. Virchow, in which he announces the discovery of corpuscles presenting the same reaction as the *corpora amylacea* of the brain, in the Malpighian corpuscles of diseased human spleens—in the condition termed 'waxy spleen' (Wachsmilz).

Effect of Chloroform upon the blood of Leucocythæmia. By M. DE CHAUMONT. ('Edinburgh Monthly Journal,' May, 1853).

In a paper on the effects of chloroform on the blood, which was read before the Edinburgh Physiological Society, M. de Chaumont states that "when the blood of leucocythæmia is acted upon, the red globules dissolve, and the white present the reaction, not of the ordinary white globules of the blood, but of pus." Now, this statement is of considerable importance in connection with the pathology of leucocythæmia; for, if it be substantiated, it amounts to a proof of the correctness of the view we put forth when reviewing Dr. Bennett's work on 'Leucocythæmia' (vol. xvi, p. 285)—namely, that this affection is nothing more than a new form of purulent contamination of the blood.

Experimental researches applied to Physiology and Pathology. By E. BROWN-SEQUARD, M.D., Paris. (Philadelphia Medical Examiner, Aug. 1853.)

The following facts are full of significance in connection with the theory of muscular contraction. In the opinion of M. Brown-Séquard—an opinion which is entitled to all possible respect—they support the idea that *carbonic acid* is a stimulant of muscular contraction, and supporting this idea, they lead to a theory of the rhythm of the heart; in our opinion, they rather seem to afford additional proof of the independence of muscular contraction upon any stimulus, (for we cannot readily admit carbonic acid into the category of stimulants), according to the views which were originally put forth in 1850, in a work called "the Philosophy of Vital Motion," and which are

noticed in abstract on a former page (p. 259), of the present volume Under any circumstances, however, the facts are of extreme interest, and the theory is as ingenious as the facts are interesting; and without further comment, therefore, we state some of the principal facts, and the theory of the heart's action which is founded upon them.

* * * *

“ My friend Dr. Martin Magron and myself have discovered that after the section of one of the facial nerves, on a rabbit, the face becomes very quickly deviated, not on the healthy side, as it is known to be in man, but, strange to say, on the paralysed side. The deviation, very slight at first, increases gradually during one or two weeks, and then it is so considerable that the middle of the lips is at a distance of four, five, or six lines from its natural situation. There is an evident state of contraction in all the paralysed muscles. When the animal is excited, or when its respiration is somewhat disturbed or prevented, the paralytic muscles tremble, and sometimes they have rhythmical contractions and relaxations.

“ The contractions of these muscles may be so considerable that the bones themselves, and, secondarily, the teeth, may be deformed. In one case, on a rabbit which I had kept living twenty-one months after the extirpation of one of the facial nerves, not only the superior and inferior jaws were by far less developed on the paralysed side than on the other, but the anterior part of the superior maxillary bone was deviated towards the paralysed side, so that the middle line of the roof of the mouth was curved and presented a great concavity on the paralysed side and a corresponding convexity on the other.

“ When the two facial nerves have been divided, there is no deviation, but there is an evident state of contraction in all the paralysed muscles, particularly around the lips. *

“ When one of the facial nerves is divided on a dog, on a cat, or on a Guinea pig, there is generally no deviation on either side. But very frequently there are convulsive movements, and sometimes rhythmical contractions, in the paralysed side of the face. One of these two kinds of movements always exists in young cats. They are increased, or produced when they do not exist, in dogs and Guinea pigs, almost every time we prevent the animal from breathing freely. Once, on a very vigorous Guinea pig, upon which one of the facial nerves had been torn away, I saw alternate contractions and relaxations taking place, without a relapse, for eight or ten days after the operation in the paralysed muscles. After that time, these tremblings appeared only when the circulation and the respiration were rendered very active, or when the respiration was prevented or diminished. In the case of an impaired respiration, the strength and frequency of these movements were in proportion to the degree of asphyxia. During many months, the same phenomena existed in this animal.

“ I ought to say that in all the experiments above related, the nerve could not have any share in the movements, because, the fifth day after

* Dr. Martin-Magron and myself have found that death occurs from inanition in all the species of mammals on which we have divided the two facial nerves. After the operation they cannot swallow: we do not know why.

the division, or after the extirpation of a portion of it, the peripheric part had entirely lost its vital property.

"In man, as Dugès justly remarks, as long as there is no attempt at movement, voluntary or emotional, the face remains without any deviation, in cases of facial hemiplegia, which have not lasted a long time."

* * * *

"In pigeons, after the destruction of all the lumbar part of the spinal cord, the two posterior limbs are completely paralysed. The muscles then are soft, and the different parts of the limbs do not resist at all, when we try to put them in flexion or in extension. But after a few days the paralysed muscles become harder, and after a few weeks there is an evident state of contraction in them. The limb is generally kept in a state of extension, and deviated on one side or the other. The deviation becomes considerable after some months.

"Very likely it is owing to the same cause that club-foot and other deviations are produced in embryos, after a destruction or an absence of development of the spinal cord."

* * * *

"If we open the abdomen of a living animal, in avoiding to excite mechanically the bowels, and in allowing the animal to breathe freely, we may for a long time see no other movement in the bowels, except, sometimes, slight regular and natural peristaltic motions, depending on digestion, and limited to some small parts of the bowels. The animal must be kept on his back, and we must avoid touching the bowels, because a slight contact is sufficient to produce movement. Now, if we prevent the animal from breathing, we see, after ten, fifteen, or twenty seconds, very violent, sudden, and rapid contractions taking place in all parts of the intestine, from the stomach to the rectum, but much more in the small intestine than elsewhere. These movements are quite different from the digestive peristaltic movements. If the animal is allowed to breathe again, and freely, the movements diminish gradually, and disappear almost entirely after a few minutes. Then, if we prevent it again to breathe, we see the movements produced again. This experiment may be repeated many times, with the same result, on the same animal. * * * Again: "If we put a tie around the trachea of a living animal, immediately after expiration, we may see and feel violent movements taking place in the bowels, although the abdomen is not opened. It is in consequence of such movements that there is an expulsion of fæcal matters, after death, in man. The urine may be also expelled in these cases, in man and in animals, and this expulsion takes place because the bladder contracts, and not, as it is generally admitted, because the *spinctor vesicæ* becomes relaxed."

* * * *

"If black blood is injected in the arteries of the small intestine when its irritability is much diminished, movements are almost immediately produced, but they do not last long. On the contrary, if red blood is injected, movements do not appear immediately, and they are very strong and last long."

* * * *

"John Reid has discovered that when any hemadynamometer is put in the femoral artery of a dog, the mercury rises in the instrument if the animal is asphyxiated, and about one minute after the respiration has been stopped. The same result has been obtained in twenty experiments. It seems to me that this fact proves that the contractions of the heart become more energetic during asphyxia. John Reid attributes the result he has obtained to some difficulty that black blood seems to have in passing through the capillaries of the different parts of the body. I do not deny that there is such a difficulty; but I think that the great reason of the ascension of mercury in the hemadynamometer is, the increase in the force of the heart. A simple experiment proves that I am right. I adapt the hemadynamometer to the aorta in the abdominal cavity, and then I open quickly the chest, and I put a ligature to the brachial and carotid arteries. About three quarters of a minute after opening the chest, and about half a minute after the ligature has been put on the arteries of the head and arms, the mercury rises notably in the instrument; sometimes the elevation is as considerable as two inches. It results from this experiment, that the heart beats more strongly in asphyxia about one minute after its beginning."

*

*

*

*

Arguing from these and similar facts, that carbonic acid is a stimulant of muscular contraction, M. Brown Séquard thus accounts for the rhythm of the heart.

"I believe it is easy to explain why the agent of excitation of the heart * produces rhythmical contractions. I will suppose first, that the action is permanent. A part of the heart, ventricles, or auricles, being dilated, receives an excitation in all its fibres simultaneously, and a contraction is produced. But, according to the well-known law of Schwann, the exciting cause which is able to give the impulse when the muscular fibres are long, is not able to maintain the contraction when the fibres have been shortened. Then, on account of this insufficiency of power of the cause of the contraction, a dilatation ensues. We may present the fact in other words, and say that the resistance to the contraction originating from the displacement of the constitutive matter of the contractile tissues, increases in proportion to the shortening of the fibres; and that after the fibres have contracted under the impulse of the exciting cause, although this cause continues to act, a dilatation is produced by the force belonging to that resistance, which is nothing but elasticity. If the cause of the contraction of the heart was a considerable one, then we should see a permanent contraction; and it is so when we apply galvanism—the elasticity, then, is not powerful enough to produce dilatation. On the contrary, with a weak exciting cause, like carbonic acid, the result ought to be different. When that cause has more power, as in asphyxia, the shortening of the fibres takes place quicker, and is more considerable; and even then it is not sufficient to maintain contraction, the tendency to dilatation being also increased.

"I ought to say, that the excitant cause of the contractions is not

* What I will say here for the heart, might be said for all the contractile tissues, presenting apparently spontaneous rhythmical contractions, as the cilia, for instance.

always at the same degree of power. The small blood-vessels and the capillaries being compressed during the muscular contractions, there is a diminution of excitation during that time. This should be sufficient to explain the alternate contractions and dilatations. But such a diminution in the calibre ought to be very little, if even it exists in certain organs, (the heart when composed of cells, for instance.)"

In answer to the question, how is it that the heart is the only muscle containing striated fibres which presents normally rhythmical movements? Mr. Brown-Séguard proceeds to say:—

"The answer to this question appears to be very simple. The intensity of the stimuli, the degree of irritability, and the resistance which a muscle has to overcome when it contracts, are three elements which we ought not to lose sight of when we examine the difference of contractions between two muscles. Suppose the heart possessing the same degree of irritability as another muscle: if the stimulus is the same, and the resistance the same also, for the heart and for the other muscle, there will be the same effects. But if the stimulus is more considerable in the heart than in the other muscle, and if the resistance to be overcome is less for the heart, then with the same degree of irritability in both parts, and even with less irritability in the heart than in the other muscle, we will see a movement in the heart, and not in that other muscle. Now a simple examination of the vessels of the heart, proves that they contain more blood, and consequently more stimulus, than the other striated muscles. Besides, as the heart is not inserted into heavy bones to be moved, it has less resistance to overcome when it has not to circulate the blood, as after death, or when it is out of the chest, than the muscles of animal life. Some muscles in the face and the diaphragm, being almost without an external resistance, when their contractions do not go so far, it results that they are moved much more easily after death, than the muscles of the limbs. In consequence of these views, I believe that, although there is in the blood-vessels of all the muscles of the body a principle which is an exciting cause of contractions, there are no contractions produced, because the quantity of that principle is not sufficient, or because the resistance to contractions in many muscles is greater than in the heart."

Notes on the design of certain portions of the Cranium, being a selection from the lectures on Anatomy, delivered by John Hilton, F.R.S. Collected and compiled for publication by F. W. PAVEY, M.B. London, ('Guy's Hospital Reports,' vol. viii, part ii, p. 357.)

These notes shed very much light upon the means by which the brain is shielded from the dangers arising from shock, and from the compression of vascular engorgement.

In preserving the brain from shock, the isolation of the cranial bones in the child, the ridges and eminences within the skull of the adult, and the cranio-spinal fluid are found to play an important part. In the infant, the vibrations resulting from a fall upon the head are usually lost in the cartilage surrounding the bone receiving the injury—which bone, from its prominence, is usually the frontal or the

parietal. In the adult, on the contrary, the vibrations originating in this way are not confined to the bone receiving the shock, but they travel along the ridges or elevations constituting the thicker and more dense parts of the skull (because these ridges and elevations are better conductors of vibrations than the surrounding bones), and thus travelling, they are conducted partly to the anterior and posterior clinoid processes, and partly to the petrosal portion of the temporal bone. The vibrations that are conducted to the clinoid processes are transmitted to the cerebro-spinal fluid upon which the brain rests, and are lost in that fluid; those that are conducted to the petrosal bone are transmitted to the soft membranous tissue intervening between this bone and the sphenoid, and to the incumbent cerebro-spinal fluid, and they are lost in the membrane and fluid. The cerebro-spinal fluid is, therefore, not merely a water-bed, upon which the brain is delicately poised, but it is the grand means of intercepting those vibrations, which would otherwise be transmitted to the brain, and which, if transmitted, would occasion serious mischief. In this way, the clinoid processes, and other inequalities of the base of the skull, which seemed so very likely to injure so delicate an organ as the brain, are found to hold a relation to this cerebro-spinal fluid which is best calculated to obviate these injuries; and the ridges and elevations, which had no assignable function, are found to be admirably arranged for causing the vibrations of the skull to converge to the clinoid processes, or to the petrosal portion of the temporal bone, where they are disposed of in the way mentioned. These ridges are not wanted in the head of the infant, because the vibrations resulting from a blow on the head do not extend beyond the limits of the isolated bone upon which the violence is expended, and therefore they do not exist. The direction in which the vibrations travel to their several destinations, is illustrated by several diagrams, and by these practical remarks.

“That the statements I have just made concerning the conduction of vibrations from the walls of the cranium along certain definite channels to points of bone at the centre, where they terminate, without injury to the cerebral and surrounding structures, I say, that what I have just stated on this point is not merely hypothetical, but really does take place in the living subject; is strongly supported by the phenomena that are sometimes observed in cases of fracture of the base of the cranium. For example, I have known it to happen that a person having been exposed to external violence, which has led to a fracture of the base of the skull, and feeling pretty well a few days after the accident, has expressed a desire to get up and leave his sick chamber, which his medical attendant has been indiscreet enough to allow him to do, or which he has done of his own accord, without the knowledge or consent of his attendant. After moving and walking about, however, for a short time, he has soon complained of headache, has been attacked with sickness and vomiting, afterwards has had confusion of his ideas, and, finally, has fallen into a state of unconsciousness, in which after three or four days he has expired. The explanation of these symptoms I believe to consist in the interference which the fracture has produced, or the interruption it has occasioned to the natural course and termination of the

cranial vibrations. During the time that the patient remained quiet and in bed, there were no vibrations to disturb the injured parts, but as soon as he began to move and walk about, the vibrations which were thus occasioned, instead of being conducted onwards to their natural points of termination at the centre of the base, were interrupted in their course at the line of fracture; thus setting up irritation, with perhaps slight laceration of the surrounding soft structures, and leading to those serious consequences which ended in a fatal termination of the case."

Much additional light is also thrown upon the means by which the dangers arising from the compression of venous engorgement are obviated. A principal means is the compensating escape of the cerebro-spinal fluid into the spinal canal, an escape which is demonstrated by the following experiment:—

"At present," says Mr. Hilton, "I have only *assumed* that, under the augmentation of the normal amount of blood within the cranium, an escape of cerebro-spinal fluid takes place into the vertebral canal, and that this is here accommodated by an equivalent displacement of blood from the spinal flexus of veins. But it is not difficult to show, by actual experiment, the truth of this statement; and I do not know that any more conclusive evidence can be required than is furnished by these two simple experiments, which I performed now many years ago, and which I have been since accustomed annually to mention in my anatomical course of lectures. In the first experiment I opened the abdomen of a subject on the *post-mortem* table, and clearing aside the viscera, removed the bodies of a couple of the lumbar vertebræ, so as to expose the dura mater containing cerebro-spinal fluid. I then forced blood into the interior of the head, by making pressure from below upwards along the course of the internal jugular veins; and as I did this the dura mater in the lumbar region was seen to rise from the afflux of cerebro-spinal fluid into the spinal canal. In the other experiment I removed the whole of the viscera from the chest and abdomen of the same subject without disturbing the head. The blood in the divided branches of the azygos, lumbar, and intercostal veins, formed, as it were, cup-shaped depressions; but immediately that I applied pressure with the fingers upon the dura mater exposed in the lumbar region, the blood rose and finally flowed out of the above-mentioned venous branches. Just in proportion, in fact, as pressure was made on the dura mater, so was blood forced out from the azygos, lumbar, and intercostal veins."

It is argued that the flow of blood from the veins will be facilitated by the vicinity of the several sinuses to the ridges and elevations of the skull along which the vibrations already mentioned are transmitted, and by the consequent transmission of these vibrations to the venous current. It is argued that the position of the carotid in the cavernous sinus may be intended to bring about the same result by the communication of its throbbing to the sinus—

"The position of the carotid artery within the sinus, is analogous, in a functional point of view to what I have stated concerning the arteries of the extremities and their associated *venæ comites*. But, it is even placed under a still more favorable condition than these for the production of a similar effect, for the walls of the artery being immersed or bathed in the pool or lake of blood constituting the sinus, each pulsation

of the arterial tube communicates a considerable impulse to the surrounding fluid, which escapes from its enclosed cavity or sinus in any direction in which it meets with the least resistance, there being no valves in any of the venous channels situated in the interior of the cavity of the cranium. The pulsations of the carotid arteries in their passage through the cavernous sinuses, thus supply the absence of that accessory influence which the venous circulation in other parts of the body receives from the muscular system. And the momentum derived from such a continued series of impulses is fully sufficient not only to prevent the stagnation of blood in the cranial sinuses, but to urge it quickly onwards towards the right side of the heart, in the direction which offers the least obstruction to its progress."

Mr. Hilton also points out the interesting fact, that in children, where attacks of cerebral vascular engorgements are more common than in adults, owing, among other reasons, to the greater frequency of fits of passion and crying, there is a special provision against the dangers of this engorgement, in the greater number of outlets through which the blood can escape from the skull.

1. *Nouvelle fonction de Foie, considéré comme organe producteur de matière Sucrée chez l'Homme et les Animaux.* Par M. CLAUDE BERNARD; Paris, 1853, pp. 92.
2. *The Liver considered as the source of Saccharine Matter in Man and the lower Animals.* By M. BERNARD.

M. Bernard's discovery that the liver has the power of forming sugar is a fact of very great moment. It is of great moment as showing the transformation in an animal body of an animal substance into a vegetable substance. It is of greater moment as giving a more definite conception of the functions discharged by the liver, and of the changes which lead to diabetes.

The main facts upon which this discovery rests may be stated in a few words, though in this way we can hope to give but a very inadequate idea of the labour and skill involved in the inquiry.

A dog was killed while digesting a full meal of mutton and chicken-bones which it had taken seven hours previously; and on examination, sugar was found in blood obtained from the right side of the heart, but not a trace in the alimentary canal or in the urine. Another dog was killed, after having been kept fasting for two days, and sugar was still found in the blood from the right side of the heart, but not in the alimentary canal or in the urine.

A fine, healthy dog was killed while digesting actively a full meal of mutton and bones, which had been taken seven hours previously, and on examination, a large quantity of sugar was found in the blood from the portal vein, and a less quantity in the blood from the right side of the heart, but not a trace in the lacteals, in the alimentary canal, or in the bladder. Another dog was killed after having been kept fasting for three days, and in this case sugar was found in the blood from the portal vein, and from the right side of the heart, though in less

quantity than in the last experiment, but none in the chyle, in the contents of the alimentary canal, or in the urine.

These experiments were performed repeatedly, and always with the same results.

Reflecting upon these experiments, and considering that the liver was more likely to be the source of sugar than the portal vein, and that the portal vein might possibly become charged with sugar by the regurgitation of blood from the liver, M. Bernard next set himself to determine this point.

A dog was killed by dividing its medulla oblongata while digestion was in active progress, and a ligature was placed round the portal vein close to the liver, before the blood had had time to regurgitate from the liver into the portal vein and its tributaries. (In M. Bernard's opinion, a main cause of the onward movement of the blood in the portal veins is the pressure of the abdominal parietes, and hence great dispatch and dexterity were required to prevent this regurgitation on opening the abdominal cavity). In this case no sugar was found in the blood of the portal vein, or in the chyle, or in the contents of the alimentary canal, but it was obtained in abundance from the blood of the liver.

On further inquiry it was found that sugar might be obtained in abundance from the tissue of the liver, but not from the tissue of the pancreas, or spleen, or mesenteric glands.

It having been suggested that the liver might merely have the power of storing up the saccharine elements of the food, and of giving these up by small instalments, M. Bernard performed the following experiment:—A full sized dog, which had been kept fasting for eight days, was fed on animal food for eleven days, and then killed. The result was still the same; for on examination, abundance of sugar was found, both in the liver and in the right side of the heart.

These experiments were repeated many times, and always with the same result. Sugar was also found, not only in mammals generally, but in birds, in cartilaginous and osseous fishes, in molluscs, and in crustaceans—most abundantly in actively-breathing animals, such as mammals and birds. It was not found, however, in the human liver, except after sudden death, from which circumstance, M. Bernard argues that the formation of sugar is arrested during mortal exhaustion—a conclusion which is borne out by the history of diabetes; for in this complaint the sugar disappears from the urine in the last days of life.

On further carrying out these inquiries, no sugar was found in the left side of the heart, and in the arteries, and hence the conclusion that it had been utilised in some way in the process of respiration—becoming transformed into lactic acid as an intermediate part of this process.

Some additional facts transpire in the course of the inquiry. The formation of sugar in the liver is arrested by the division of the pneumogastric nerves; and diabetes is induced by slight irritation of the olivary bodies, and of some other parts of the nervous centres—facts which have yet to receive a satisfactory explanation.

The sugar which is detected in these experiments is perfectly

analogous to diabetic sugar, and M. Bernard calls it by this name. It was detected by Barreswil's test, great care being taken to free the fluid to be tested from its albuminous principles.

The bearing of these facts upon the pathology of diabetes is all important, but as yet the precise characters of these bearings have not been determined. In our opinion the facts appear to point to deficiency of respiratory action rather than to excess of sugar, as the grand cause of diabetes; for if sugar be formed in the liver, and not disposed of in the lungs, it will pass into the arterial blood, and so out of the body by the kidneys. And other facts appear to show that sugar does thus pass out of the body when the respiration is defective. Thus, in the experiments which he instituted at the Salpêtrière, M. Dechambre found sugar to be habitually present in the urine of persons whose respiration had become retarded by the effects of old age. (*v. 'Abs.,' xvi, p. 111.*) Thus (an observation which we have confirmed in several instances) MM. Michea and Regnoso found sugar temporarily present in the urine of epileptics, after the asphyxia of the fit. (*v. 'Abs.,' xvii, p. 91.*) Upon this view the object of the treatment should be rather to increase the respiratory activity than to endeavour to put a stop to the formation of sugar by placing an embargo upon the diet, and for this purpose duly-regulated gymnastic exercises, and perhaps the inhalation of oxygen or ozone, as was suggested by MM. Cassaroti and Robin, for the treatment of albuminuria (*v. 'Abs.,' xvii, p. 274.*), may prove to be an indispensable part of the rational treatment of diabetes.

Objections to the prevailing theories of Procreation. By D. M. HIRSCH, Jun., of Bingen. (*Schmidt's Jahrbucher, 1853; No. 2, pp. 153.*)

Dr. Hirsch concludes that menstruation has no analogy to the heat of beasts, because fertilization can take place in the human female at any time, and not at this time only, as must be the case if menstruation be analogous to the heat of beasts. He thinks that fertilization may take place at other times than at the menstrual period, partly from the analogy of man, whose power of fertilizing is not limited to any particular time; partly from the fecundity of Jewesses, who are prevented, by their customs, from having intercourse with their husbands for five days before, and seven days after the first appearance of the menses; and partly from the case of a female, who fell under his notice, and who was fecundated 22 days after normal menstruation. It appears, however, that all these objections are overruled by the arguments of Dr. Duncan (already stated, p. 332), which arguments go to show that the semen may retain its vivifying power for a considerable time after the conjunction of the sexes, and that, consequently, the act of conception may be considerably removed from the time of conjunction.

1. *A fact bearing on the Development of the Entozoa.* By M. Herbzt. ('Annales des Sciences Naturelles,' xvii, pp. 63.)
2. *Another fact of the same kind.* By M. Leuckart. ('Gazette des Hôpitaux,' Feb. 23.)

These two facts form an interesting contribution to the history of this difficult subject.

M. Herbzt fed three puppies, about six weeks old, with the flesh of a badger, containing numerous trichinæ, and found some time afterwards that their flesh was full of the same parasite.

M. Leuckart's fact is even still more conclusive. He fed several white mice for some time upon ordinary food, and ascertained that they were altogether free from any intestinal parasite. He then separated them into two companies, and mingled eggs, taken from the *tænia crassicollis*, with the food of one of these companies; and in a short time he found that the mice which had taken the eggs were infested with the cænuris, while the others, which had not taken the eggs, continued as free from any parasites as they were before.

BOOKS, &c., RECEIVED.

1. *The Diseases of the Heart and Aorta.* By Wm. Stokes, M.D., Regius Professor of Physic in the University of Dublin. 8vo. Dublin, Hodges and Smith, 1854, pp. 689.
2. *Die Heilung und Verhütung des Cretinismus.* Von Dr. Guggenbühl. 4to. Bern and St. Gallen, 1853, pp. 121.
3. *The Pathology and Treatment of Diseases of the Urethra, being the Jacksonian Prize Essay.* By H. Thompson, F.R.C.S., M.B. 8vo. London, Churchill, 1854, pp. 424.
4. *A Treatise on the Diseases, Injuries, and Malformations of the Rectum and Anus.* By T. J. Ashton. 8vo. London, Churchill, 1854, pp. 400.
5. *Medico-Chirurgical Transactions.* Vol. XXXVI. 8vo. Longman, 1853, pp. 496.
6. *Report on Epidemic Cholera, drawn up at the desire of the Cholera Committee of the Royal College of Physicians,* by W. Baly, M.D., and W. W. Gull, M.D. 8vo. London, Churchill, 1853, pp. 565.
7. *Practical Observations on Gout and its complications, and on the Treatment of Joints stiffened by Gouty Deposits.* By T. Spencer Wells. 12mo. London, Churchill, 1854, pp. 288.
8. *Suggestions for the future provision of Criminal Lunatics.* By W. C. Hood, M.D. 8vo. London, Churchill, 1854, pp. 174.
9. *The Baths of France, Central Germany, and Switzerland.* By Edwin Lee. 12mo. London, Churchill, 1854, pp. 207.
10. *Clinical Lectures on Paralysis, Disease of the Brain, and other Affections of the Nervous System.* By R. B. Todd, M.D., F.R.S. 12mo. London, Churchill, 1854, pp. 462.
11. *A Treatise on Hooping-Cough, with its successful treatment by a new remedy.* By G. D. Gibb, M.D. 12mo. London, Renshaw, 1854, pp. 395.
12. *Grundzüge der Physiologie des Nerven-Systems.* Von Dr. C. Eckhard. 8vo. Giessen, 1854, pp. 168.
13. *A Practical Synopsis of Diseases of the Chest and Air-passages, &c.* By J. Bright, M.D. 2d edit. 12mo. London, Churchill, 1854, pp. 296.
14. *Epilepsy, and other Affections of the Nervous System which are marked by Tremor, Convulsion, or Spasm.* By C. B. Radcliffe, M.D. 8vo. London, Churchill, 1854, pp. 145.
15. *Nouvelle Fonction de Foie, considéré comme organe producteur de Matière Sucrée chez l'Homme et les Animaux.* Par Claude Bernard. 8vo. Paris, 1853, pp. 92.
16. *The Influence of Climate on the Human Organisation, &c.* By J. R. Robertson, M.D. 12mo. London and Wiesbaden, Churchill and Roth, 1854, pp. 161.
17. *Guy's Hospital Reports.* Vol. VII, part II. 8vo. London, Churchill, 1853, pp. 486.
18. *Six Lectures on the Pathology of Strabismus, and its Treatment by Operation, delivered at the Westminster Hospital.* By C. Holthouse. 8vo. London, Churchill, 1854, pp. 116.

PAMPHLETS.

1. *Vertigo.* By J. Russell Reynolds, M.D. 8vo. London, Churchill, 1854, pp. 47.
20. *Functional Affections of the Heart.* By J. W. Corson, M.D. 8vo. New York, 1854, pp. 31.
21. *On some rare Injuries of Joints, the result of Accident and Disease.* By R. G. H. Butcher. 8vo. Dublin, Hodges and Smith, 1854, pp. 31.
22. *The Improvements in Modern Surgery, being the Oration delivered before the Medical Society of London in March, 1854.* By H. Smith. 8vo. London, Churchill, 1854, pp. 29.
23. *Researches on the Conduct of the Uterus after Delivery.* By Dr. R. Heschl. 8vo. Dublin, Farrin, 1853.
24. *On the use of Impure Gold for Dental Purposes.* By W. Imrie. London, Churchill, 1851, pp. 10.
25. *On the use of an Artificial Membrana Tympani.* By J. Toynbee, F.R.S. 2d edit. London, Churchill, 1854, pp. 32.
26. *Result of an Enquiry into the invariable existence of a Premonitory Diarrhœa in Cholera.* By D. Mac-loughlin, M.D. 8vo. London, Churchill, 1854, pp. 61.
27. *On Signor Matteucci's Letter to Dr. H. Bence Jones.* By E. du Bois-Reymond. 8vo. London, Churchill, 1853, pp. 41.
28. *Clinical Lecture on Stricture of the Pyloric Orifice of the Stomach simulating Ileus.* By Dr. O'Ferral. 12mo. Dublin, 1854.
29. *Case of Incarcerated Femoral Hernia cured by operation.* By K. King, M.D. 1854.
30. *Two cases of Partial Chorea in Pregnancy.* By J. M. Duncan, M.D. 8vo. Edinburgh, Neil and Co., 1854.
31. *Case of Strangulation of the Jejunum released by Gasterotomy.* By J. Ridge, M.D. 1854.
32. *On some points in the Physiology of the Tympanum.* By G. Filcher. 8vo. London, Highley, 1854, pp. 32.

INDEX TO VOL. XIX.

| | PAGE |
|--|------|
| Abscess in infants' milk | 235 |
| ADAMS on lateral curvature of the spine | 154 |
| Anal-fistulæ, treated by iodine injections | 168 |
| injections of tincture of rhatany | 169 |
| ADDISON, on keloid | 103 |
| Aneurism of the aorta, case of spontaneous varicose- by compression, treatment of | 73 |
| injection of acetate of peroxide of iron in | 116 |
| injections of perchloride of iron in | 121 |
| Angina pectoris, curious case of | 117 |
| ALDERSON, on keloid | 70 |
| Ankle-joint, on excision of | 103 |
| ARNOTT, on the treatment of cancer by congelation | 184 |
| Arteries plugged by detached cardiac vegetation, cases of | 109 |
| Ascites, on iodine injections in | 77 |
| ASHWELL, on the diminution and disappearance of uterine tumours | 94 |
| ATKINSON, exemption of publicans from phthisis | 210 |
| Aural surgery, on | 6 |
| BARBIERI, curious case of recurrent tetanoid spasms | 312 |
| BABY, report on cholera | 52 |
| BARNES, case of sarcina ventriculi | 244 |
| galvanism as an obstetric agent | 81 |
| BASHAM, on the indications for iodide of potassium in rheumatism | 336 |
| action of various remedies in | 31 |
| BARTHEZ, on the influence of vaccination during smallpox | 100 |
| BECK, on the diagnosis and treatment of prolapsus uteri | 16 |
| BELLINGHAM, on the diagnosis between pericardiac and endocardiac sounds | 210 |
| on diseases of the heart | 71 |
| BENNETT, on the ectrotic treatment of smallpox | 270 |
| on the diagnostic value of the absence of chlorides in the urine | 19 |
| BECQUEREL, effects of menstruation on the milk of nurses | 96 |
| BERNARD, on the liver as a sugar-forming organ | 195 |
| BLACKBURN, on stimulants in snakebites | 377 |
| Bladder into the scrotum, case of hernia of | 113 |
| case of spontaneous recovery after severe injury of | 169 |
| Blood-diseases and their treatment, on certain | 173 |
| BLUMHARDT, on the use of collodion in burns | 124 |
| BOINET, on the treatment of anal fistulæ by iodine injections | 114 |
| BOWDITCH on paracentesis in pleuritic effusion | 168 |
| Bougies, unsuitableness of gutta-percha | 59 |
| Bowels, on the use of opium instead of purgatives in severe obstruction of the bowels | 173 |
| BRIGHT'S disease, on the blood and effusions in | 88 |
| | 27 |

| | PAGE |
|--|------|
| BRINTON, treatment of fever by stimulants | 7 |
| BRISTOWE, on the co-existence of cancer and tubercle | 34 |
| BROCA, case of uterine catheterism followed by death | 224 |
| BROWN, on some diseases of the rectum resulting from certain states of the uterus | 215 |
| case of retroversio uteri rendered fatal by pregnancy | 224 |
| BROWN-SEQUARD, on "spontaneous muscular contractions," and the rhythm of the heart | 370 |
| BRYAN, curious case of impalement per vaginam | 230 |
| BRYSON on the prophylactic influence of quinine | 1 |
| BUCHANAN, on excision of the ankle-joint | 184 |
| on the use of iodine in cholera | 251 |
| BUDD, on ipecacuanha in certain stomach disorders | 78 |
| on pyrosis | 79 |
| case of sarcina ventriculi | 81 |
| BURNHAM, case of extirpation of the uterus and ovaries | 226 |
| Burns, on the use of collodion in | 114 |
| BUSK, on starch in the brain of man | 368 |
| Cæsarian section, cases of | 191 |
| CAIN on chloroform in spasmodic obstruction of the bowels | 88 |
| Cancer and tubercle, co-existence of | 34 |
| Cancer by congelation, treatment of | 109 |
| CARNOCHAN, case of restoration of entire upper lip | 142 |
| Catalepsy, a case of | 57 |
| Cellulose in the brain of man, on | 365 |
| CHAMBERS, case of mollities ossium | 126 |
| Chloroform in fever, internal use of | 13 |
| in hypochondriasis, internal use of | 45 |
| in tetanus | 55 |
| in spasmodic obstruction of the bowels | 88 |
| rules for administration of | 129 |
| in midwifery, on the questionable utility of | 201 |
| Cholera, report of the Royal College of Physicians on | 244 |
| internal use of chloroform, in | 250 |
| on the treatment of | 250 |
| on the use of iodine in | 251 |
| Chorea, occurring during pregnancy, cases of partial | 213 |
| CHURCHILL, on a new pessary | 216 |
| COLDSTREAM, a case of catalepsy | 57 |
| COOKE, case of sudden death during parturition from rupture of a pul- monary artery | 194 |
| COPLAND, on certain blood diseases and their treatment | 24 |
| CORBYN, large doses of quinine in fever | 11 |
| CORSON, diagnosis of functional affections of the heart | 70 |
| curious case of angina pectoris | 70 |
| COSTES, on iodine injections in ascites | 94 |
| COX, a case of glanders in man successfully treated by stimulants | 21 |
| Cranium, on some points in the physiology of the | 374 |
| CRAWFORD on the external use of iodine in smallpox | 16 |
| Cretinism, on | 251 |
| CRITCHETT, on removal of a piece of steel from the interior of the eye | 137 |
| CROSBY, on a new mode of procuring extension in fracture | 124 |
| DAVEY, on insanity | 40 |

| | PAGE |
|--|------|
| DAVIS, case of fracture of the third cervical vertebra, with displacement, in which the patient lived for seven days . . . | 150 |
| DE CHAUMONT, on the effects of chloroform in the blood in leucocythæmia . . . | 370 |
| DEGRANGES, injection of per-chloride of iron in varicose veins . . . | 119 |
| Delirium tremens, external application of belladonna in . . . | 47 |
| Diabetes, on the action of various remedies in . . . | 100 |
| Diabetes, treated by rennet, case of . . . | 102 |
| Diarrhœa adiposa, case of . . . | 90 |
| Dislocation, associated with fracture, on the treatment of . . . | 122 |
| Dislocation of the metatarsal bones under the tarsal, case of . . . | 185 |
| Dmochowski, case in which the birth of twins was separated by an interval of 15 days . . . | 187 |
| DRYER, on a new vaccine-scarificator . . . | 129 |
| DUCHAUSAY, cause and treatment of prolapsus of the rectum . . . | 167 |
| DUNCAN, the inner surface of the uterus after delivery . . . | 194 |
| cases of partial chorea occurring during pregnancy . . . | 213 |
| on the duration of pregnancy . . . | 332 |
| DUNSMORE, case of spontaneous recovery after severe injury of the bladder . . . | 173 |
| Ear, a new instrument for the removal of polypi from the . . . | 141 |
| EHRENREICH, on the local application of chloroform vapours in tenesmus . . . | 94 |
| ELLIS, on the galvanic cautery in the treatment of . . . | 216 |
| Endocardiac and pericardiac sounds, diagnosis between . . . | 71 |
| Entozoa, on the development of . . . | 380 |
| Epilepsy and allied affections, on . . . | 258 |
| Epistaxis, a new mode of plugging in . . . | 142 |
| ERICHSEN, the cases in which urethrotomy may be employed . . . | 173 |
| on excision of the knee-joint . . . | 179 |
| a case of ovariectomy . . . | 220 |
| Ethmoid bone and upper maxilla, case of removal of part of . . . | 138 |
| EVANS, on the use of opium instead of purgatives in severe obstructions of the bowels . . . | 88 |
| Eye, removal of a piece of steel from interior of eye . . . | 137 |
| FAYE, case of cæsarian section . . . | 191 |
| FEARNSIDE, case of diabetes mellitus, treated by rennet . . . | 102 |
| Fever, treatment of, by stimulants . . . | 7 |
| large doses of quinine in . . . | 11 |
| internal administration of chloroform in . . . | 13 |
| intermittent, periodicity of . . . | 15 |
| FOLLIN, injection of perchloride of iron in varicose veins . . . | 119 |
| Fontanelle as a diagnostic means in infants, condition of anterior . . . | 233 |
| FORSTER, on the treatment of nævus, by the injection of perchloride of iron . . . | 120 |
| Fracture, new operation for ununited . . . | 122 |
| associated with dislocation, on the treatment of . . . | 122 |
| a new mode of procuring extension in . . . | 124 |
| FULLER, on the excretions as guides to treatment in rheumatism, &c. . . | 28 |
| GALANTE, case of chronic vomiting cured by ether capsules . . . | 81 |
| Gangrene of the lung, turpentine inhalations in . . . | 68 |

| | PAGE |
|--|------|
| GARROD, on the blood and effusions in gout, &c. | 27 |
| GOOLDEN, on the topical application of spirits of wine in gout | 33 |
| Gastrotomy for strangulated jejunum | 161 |
| GAY, on some points in the treatment of diseased joints | 125 |
| GIBB, a universal splint | 290 |
| Glanders in man successfully treated by stimulants | 21 |
| Goitre <i>v.</i> tuberculosis | 107 |
| GORDON, internal administration of chloroform in fever | 13 |
| Gout, on the blood and effusions in | 27 |
| topical application of spirits of wine in gout | 33 |
| and its complications | 253 |
| GRIEVE, external application of belladonna in delirium tremens | 47 |
| GROSS, on the value of surgical operations in malignant disease | 107 |
| GUERIN, on the union of long-divided tendons | 127 |
| GUGGENBUHL, on cretinism | 251 |
| GUILLOT, milk-abscess in infants | 235 |
| GULL, report on cholera | 246 |
| Hæmorrhage in partial separation of the placenta, on the source of | 343 |
| Hæmorrhoids, a new plan of treating | 166 |
| HAINWORTH, on excision of the margin in callous ulcer | 115 |
| HALDER, case of Cæsarian section | 191 |
| HAMBURGER, on goitre <i>v.</i> tuberculosis | 107 |
| HAMILTON, on felt splints | 124 |
| HAMMOND, case of recovery after laceration of the liver | 157 |
| HANCOCK, on sciatica, and its treatment by croton oil | 176 |
| HARDY, on the local application of chloroform vapour in some uterine affections | 353 |
| HARGRAVES, on the treatment of dislocation associated with fracture | 122 |
| HARTSHORNE, internal use of chloroform in cholera | 250 |
| Heart, on the diagnosis of functional affections of the | 70 |
| and aorta, notes on diseases of | 72 |
| on diseases of | 270 |
| on diseases of | 273 |
| on the rhythm of | 373 |
| HENRIETTE, on acute peritonitis in infants | 237 |
| HERBZT, a fact bearing on the development of entozoa | 380 |
| HESTER, a new bed for fracture of the thigh, &c. | 290 |
| HEWETT, on the question of trephining in intracranial suppuration | 130 |
| HILTON, on the condition of the anterior fontanelle as a diagnostic means in infants | 233 |
| a new operation for laceration of the perinæum | 360 |
| on some points in the physiology of the cranium | 374 |
| HIRCH, some objections to the prevailing theories of procreation | 379 |
| Hooping-cough, treatment of | 235 |
| HOVELL, on a new instrument for uterine hæmorrhage | 212 |
| Humerus, dislocation on the dorsum of the scapula | 175 |
| Hydrocele, on | 171 |
| radical cure by lunar caustic | 172 |
| Hydrophobia, said to be cured by chloroform | 49 |
| development of intelligence in a cretin during | 50 |
| in France during 1852, report of cases of | 5 |
| Indian plague, on | 22 |
| Insanity, nature and cause of | 40 |

| | PAGE |
|--|------|
| Insanity, prolonged hot baths in the treatment of . . . | 42 |
| on the question of bleeding in . . . | 43 |
| Ipecacuanha in certain stomach disorders . . . | 78 |
| Itch, on the cure of . . . | 106 |
| JACKSON, on chloroform in tetanus . . . | 55 |
| JEBB, on the cure of itch . . . | 106 |
| JOHNSON, on opium in certain cases of exhaustion and anxiety . . . | 36 |
| case of inversio uteri occurring during labour . . . | 193 |
| Joints, on some points in the treatment of diseased . . . | 125 |
| JONES (BENCE), on alkalies in acidity of urine . . . | 98 |
| on excision of the knee-joint . . . | 179 |
| JORDAN, ■ new operation for ununited fracture . . . | 122 |
| KEITH, case of excision of the knee-joint . . . | 179 |
| Keloid of Alibert and true keloid, on . . . | 103 |
| Knee-joint, cases of excision of . . . | 179 |
| treated by Syme's operation, case of loose cartilages in . . . | 182 |
| LACOWSKI, on ergot of rye in leucorrhœa . . . | 206 |
| Larynx, on exercise of the voice in ulceration of . . . | 151 |
| LAWRIE, on chloroform in tetanus . . . | 55 |
| Lead-poison, on strychnia in . . . | 89 |
| LEE, a new plan of treating hæmorrhoids . . . | 166 |
| on the questionable utility of chloroform in midwifery . . . | 201 |
| LEUCKHARDT, ■ fact bearing on the development of entozoa . . . | 380 |
| Leucocythæmia, cases of . . . | 25 |
| effect of chloroform in the blood of . . . | 370 |
| Leucorrhœa, on ergot of rye in . . . | 206 |
| LEVER, a new operation for laceration of the perinæum . . . | 360 |
| LEYDET, a new mode of plugging in epistaxis . . . | 142 |
| Lip, case of restoration of the entire upper . . . | 124 |
| LITTLE, on an anomalous case of tetanus . . . | 52 |
| Liver, case of recovery after laceration of the . . . | 157 |
| remarks on abscess of the . . . | 95 |
| as a sugar-forming organ, the . . . | 377 |
| LONDRES, on insect larvæ under the human skin . . . | 106 |
| LOWNDES, on stimulants in snake-bites . . . | 113 |
| LUSANNA, injection of acetate of peroxide of iron in aneurism . . . | 121 |
| MACCLINTOCK, case of phlegmasia dolens in a virgin . . . | 205 |
| MACLAGAN, on urine depositing oxalate of lime . . . | 95 |
| MACKENZIE, case of loose cartilages in the knee-joint, treated by Syme's operation . . . | 182 |
| MACKENZIE, on the source of hæmorrhage in partial separation of the placenta . . . | 343 |
| MACWILLIAMS on Indian plague . . . | 22 |
| MAISONNEUVE, on amputation of the tongue . . . | 146 |
| MALGAIGNE, injections of perchloride of iron in aneurism . . . | 117 |
| Malignant disease, value of surgical operations in . . . | 107 |
| MARSTON, case of diarrhœa adiposa . . . | 90 |
| MAYNE, a case of spontaneous varicose aneurism of the aorta . . . | 73 |
| MAZIER, case of Cæsarian section . . . | 191 |
| Menses simulating pregnancy, case of retention of . . . | 205 |
| Menstruation on the milk of nurses, effects of . . . | 194 |

| | PAGE |
|---|------|
| Metatarsal bones under the tarsal, case of dislocation of the . | 185 |
| Metritis, &c., on internal | 207 |
| Midwifery, on the questionable utility of chloroform in . | 201 |
| MILLER, case of enormously dilated stomach | 86 |
| Mollities ossium, case of | 126 |
| MOORHEAD, notes on diseases of the heart and aorta | 72 |
| Muscular contraction," on "spontaneous | 370 |
| Nævus, injection of perchloride of iron in | 120 |
| NEBEL, case in which a foetus escaped into the abdominal cavity through a rupture in the uterus, and remained there for fifty-four years | 187 |
| case of Cæsarian section | 191 |
| NIEPCE, development of intelligence in a cretin during hydrophobia . | 50 |
| NEILL, on the use of adhesive plaster in fractures of the patella . | 183 |
| Obstetric agent, galvanism as an | 336 |
| Opium in certain cases of exhaustion and anxiety, on the use of . | 36 |
| OSBORNE, on the internal use of chloroform in hypochondriasis . | 45 |
| Ovarian cysts, iodine injections in | 218 |
| Ovariectomy, a case of | 220 |
| Palate, on the operation for split- | 147 |
| PARKER, on the radical cure of hydrocele by lunar caustic | 172 |
| on the mode of preparing the solution of perchloride of iron | 120 |
| Patella, on the use of adhesive plaster in fracture of | 183 |
| PEET, on chloroform in tetanus | 54 |
| PELTIER, case of retention of menses simulating pregnancy | 205 |
| Perchloride of iron, mode of preparing solution | 120 |
| Pericardiac and endocardiac sounds, diagnosis between | 71 |
| Perinæum, a new operation for laceration of | 360 |
| Peritonitis in infants, acute | 237 |
| Pessary, on a new | 216 |
| Pestilence and war, comparative mortality of | 23 |
| Phlegmasia dolens in a virgin, case of | 205 |
| Phthisis, exemption of publicans from | 6 |
| PILCHER, a case of hernia of the bladder into the scrotum | 169 |
| Pleuritic effusion, paracentesis in | 59 |
| Pregnancy, case of extra-uterine | 188 |
| in a rudimentary horn of the uterus, case of | 190 |
| case of retention of menses simulating | 205 |
| cases of partial chorea occurring during | 213 |
| on the duration of | 332 |
| Procreation, some objections to the prevailing theories of | 379 |
| Puerperal arteritis, &c., on | 196 |
| Pulmonary consumption, on | 265 |
| Pyrosis, on | 79 |
| QUAIN, cases of leucocythæmia | 25 |
| Quinine, on the prophylactic influence of | 1 |
| large doses in fever | 11 |
| RADCLIFFE, on epilepsy and allied affections | 258 |
| RADFORD, galvanism as an obstetric agent | 342 |
| Rectum, cause and treatment of prolapsus of | 167 |

| | PAGE |
|--|------|
| Rectum, resulting from certain states of the uterus, on some diseases of | 215 |
| REEVES, remarks on diarrhœa adiposa | 90 |
| REMILLY, on perchloride of iron as a local uterine styptic | 218 |
| REYNOLDS, on vertigo | 48 |
| Rheumatism, on the blood and effusions in | 27 |
| &c., on the excretions as guides to treatment in | 28 |
| the indication for iodide of potassium in | 31 |
| of children, some points in the | 233 |
| RICHET, on the treatment of dislocation associated with fracture | 122 |
| RIDGE, case of strangulation of the jejunum released by gasterotomy | 161 |
| ROBERT, rules for administering chloroform | 129 |
| case of dislocation without fracture of a dorsal vertebra | 153 |
| ROBERTSON, comparative mortality of pestilence and war | 23 |
| ROTTÉE, treatment of anal fistulæ by injections of tincture of rhatany | 169 |
| ROUX, on the union of long-divided tendons | 127 |
| ROWLAND, case in which scarlatina was inoculated | 20 |
| Sanitary aspect of England in 1853 | 277 |
| Sarcina ventriculi, cases of | 81 |
| SARGENT, curious case of impalement per vaginam | 231 |
| SCANZONI, case of pregnancy in a rudimentary horn of the uterus | 190 |
| Scarlet-fever was inoculated, case in which | 20 |
| Sciatica by croton oil, on the treatment of | 176 |
| SEATON, on the prophylactic powers of vaccination | 5 |
| SEDILLOT, on the union of long-divided tendons | 127 |
| SHAW, case of an artery plugged by a detached cardiac vegetation | 77 |
| SIBSON, a case of alternate apnœa and accelerated breathing | 67 |
| SIMPSON, on puerperal arteritis, &c. | 196 |
| on iodine injections in ovarian dropsy | 218 |
| case of an artery plugged by a detached cardiac vegetation | 77 |
| SIMS, curious case of vesico-vaginal fistula | 229 |
| Skin, on insect-larvæ under the human | 106 |
| SKODA, on turpentine inhalations in gangrene of the lung | 68 |
| Smallpox, influence of vaccination during the incubation of | 16 |
| on the external use of tincture of iodine in | ib. |
| on the ectrotic treatment of | 19 |
| SMITH, a speculum oris | 290 |
| Snake-bites, on stimulants in | 113 |
| SNOW, on the treatment of cholera | 250 |
| SPAETH, a case of dislocation of the last lumbar vertebra forwards | 223 |
| Speculum oris, a | 290 |
| Spine, on lateral curvature of | 154 |
| Splint, a universal | 290 |
| Splints, on felt | 124 |
| Starch in the brain of man | 368 |
| STEWART, case of hydrophobia said to be cured by chloroform | 49 |
| STOKES, on diseases of the heart and aorta | 270 |
| Stomach, case of enormously dilated | 86 |
| disorders, ipecacuanha in certain | 78 |
| STOVELL, remarks on abscess of the liver | 95 |
| Stricture, on | 316 |
| Subclavian vein, extraordinary operation on | 152 |
| SWETT, on strychnia in lead-poisoning | 89 |
| SYME, on the operation for split palate | 147 |

| | PAGE |
|---|------|
| TARDIEU, report on hydrophobia in France during 1852 | 50 |
| Tarsal tumour, on | 136 |
| TAYLOR, cases of xerophthalmia | 132 |
| Tendons, on the union of long-divided | 127 |
| Tenesmus, local application of chloroform vapour in | 94 |
| Tetanoid spasms, curious case of recurrent | 52 |
| Tetanus, anomalous case of | ib. |
| Mr. Peet's report on | 54 |
| on the employment of chloroform in | 55 |
| Thigh, a new bed for fracture of | 290 |
| THOMPSON, on pulmonary consumption | 265 |
| on stricture | 316 |
| TILT, on internal metritis, &c. | 207 |
| TODD, on the treatment of whooping cough | 235 |
| Tongue, amputation of the | 146 |
| TOYNBIE, on a new instrument for the removal of aural polypi | 141 |
| TRACY, on paracentesis in pleuritic effusion | 59 |
| Trephining in intra-cranial suppuration, on the question of | 130 |
| TROUSSEAU, on exercise of the voice in ulceration of the larynx | 151 |
| Tubercle and cancer, co-existence of | 34 |
| Tuberculosis v. goitre, on | 107 |
| Twins, case in which the birth was separated by an interval of fifteen days | 187 |
| Ulcer, excision of the margin in the treatment of callous | 115 |
| Urethrotomy, cases in which it is expedient | 173 |
| Urine deposits, oxalate of lime in | 95 |
| on the diagnostic value of the absence of chlorides in | 96 |
| on alkalies in acidity of | 98 |
| Uterine tumours, on the diminution and disappearance of | 210 |
| hæmorrhage, a new instrument for | 212 |
| disease, on the galvanic cautery in the treatment of | 216 |
| hæmorrhage from ulcerative disease, perchloride of iron as a styptic in | 218 |
| catheterism followed by death, two cases of | 224 |
| affections, local application of chloroform vapour in some | 353 |
| Uterus during labour, case of inversion of | 193 |
| after delivery, on the inner surface of | 194 |
| diagnosis and treatment of prolapsus of the | 208 |
| rendered fatal by pregnancy, case of retroversion of | 229 |
| and ovaries, case of extirpation of | 226 |
| Vaccination, prophylactic powers of | 5 |
| during smallpox, influence of | 16 |
| Vaccine-scarificator, on a new | 29 |
| Vaginal, two curious cases of impalement per | 230 |
| Varicose veins, injection of perchloride of iron in | 119 |
| VELPEAU, treatment of aneurism by injection of perchloride of iron | 117 |
| on hydrocele | 171 |
| VERNOIS, effects of menstruation on the milk of nurses | 195 |
| Vertebra, case of fracture and displacement of the third cervical | 150 |
| dislocation without fracture of a dorsal | 153 |
| forwards, a case of dislocation of the last lumbar | 223 |

| | PAGE |
|---|------|
| Vertigo, on | 48 |
| Vesico-vaginal fistula, curious case of | 229 |
| VIRCHOW, on cellulose in the brain of man | 366 |
| Vomiting cured by capsules of ether, case of | 81 |
| WALTON, on tarsal tumours | 136 |
| War and pestilence, comparative mortality of | 23 |
| WARREN, case in which a gutta-percha bougie was broken off in the urethra | 173 |
| WARING, periodicity of intermittent fever | 15 |
| WEBB, case of removal of the upper maxilla. with part of the æthmoid bone | 136 |
| WEBSTER, on the sanitary aspect of England in 1853 | 277 |
| WELLS, on gout and its complications | 253 |
| WEST, dislocation of humerus on the dorsum of the scapula | 175 |
| case of extra-uterine pregnancy | 188 |
| WILDE, on aural surgery | 1 |
| WILLSHIRE, on some points in the rheumatism of children | 233 |
| WINSLOW, on prolonged hot baths in the treatment of insanity | 42 |
| on the question of bleeding in insanity | 43 |
| Xerophthalmia, cases of | 132 |



HEIGHAM HALL, NEAR NORWICH.

A PRIVATE ESTABLISHMENT FOR THE RECEPTION AND TREATMENT OF PERSONS OF UNSOUND MIND,

CONDUCTED BY

W. P. NICHOLS, F. R. C. S., Surgeon to the Norfolk and Norwich Hospital, and Consulting Surgeon to the City Bethel.

W. H. RANKING, M. D., (CANTAB.), Physician to the Norfolk and Norwich Hospital—and

J. F. WATSON, M. R. C. S., the Resident Proprietor.

THIS Establishment, which has been in active operation for Thirty Years, receives Patients from the Upper and Middle Classes of both sexes, and offers suitable accommodation to persons of ample as well as limited means.

The House is pleasantly situate within Twelve Acres of Ornamental Ground, and commands a fine view of the City of Norwich. Its general aspect and internal arrangements are those of a Gentleman's Mansion, a point much insisted upon by the Commissioners in Lunacy, who consider it advisable to discard those appurtenances which too often assimilate the Asylum to ordinary places of detention.

The Patients are visited daily by DR. RANKING or MR. NICHOLS, while the constant presence and association of MR. and MRS. WATSON with them, precludes the possibility of neglect or harshness on the part of the Attendants. Divine Service is performed, in the Establishment, by a Clergyman of the Church of England.

Strict attention is paid to the occupation and amusements of the Patients, and it is found that Billiards, Chess, and Music, a carefully selected Library, Daily Newspapers, &c., with Gardening, and Country Walks and Drives, are highly conducive to the comfort and mental improvement of the Inmates.

An Ornamental Cottage within the Grounds has been appropriated to the accommodation of a few Patients of the Highest Class, who while under treatment, can be attended if required by their own domestics.

Carriage exercise is at the command of all who require it.

Terms and other information may be obtained of MR. NICHOLS and DR. RANKING, in Norwich, and MR. WATSON at the Asylum.

References are permitted to the following Gentlemen :—

PROFESSOR BOND, M. D., Regius Professor of Medicine in the University of Cambridge.

The REV. J. W. DONALDSON, D. D., Head Master of the Grammar School, Bury St. Edmund's.

The REV. EDMUND MORTLOCK, B. D., Fellow of Christ's College, Cambridge; Moulton, near Newmarket.

W. IMAGE, Esq., F. R. C. S., Bury St. Edmund's.

R. MURIEL, Esq., M. R. C. S., Ely.

J. D. WATERS, Esq., Solicitor, Brandon Terrace, Yarmouth.

MESSRS. BAXTER, ROSE, AND NORTON, 3, Park Street, Westminster.

